

JPRS-UMA-93-043
17 November 1993



**FOREIGN
BROADCAST
INFORMATION
SERVICE**

JPRS Report

Central Eurasia

Military Affairs

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Military Affairs

JPRS-UMA-93-043

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17 November 1993

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ARMED FORCES

Peacekeeping Forces: Pay, Morale Issues

94UM0059A Moscow VOYENNY VESTNIK
in Russian No 7, Jul 1993 (Signed to press
21 Jun 93) pp 16-17

[Article by Lieutenant Colonel V. Kutishchev: "The Stingy Pay Twice... or Why It's Not a Good Idea To Have Poor Peacekeepers"]

[Text] Officers-peacekeepers were complaining about low socio-legal protection during a meeting in the Dniester Republic. And we were discussing this because for many of them, according to their contracts, the term of their stay here had expired long ago. However, they could not leave. Why? It turned out that it wasn't so easy to find replacements for them in Russia.

"Few people want to place themselves in the line of fire," Colonel V. Dubrovskiy explained to me. "Yes, and who would willingly risk their lives for the ridiculous monetary compensation of 8,000-9,000 rubles?"

Actually, it would be ridiculous if the thought wasn't so sad: How cheaply we value the life of a Russian officer. I am not talking about compulsory service privates and NCO's. How many times have all of us become convinced that the stingy pay twice. But no... Let's not rush to conclusions. And now millions, if not billions of rubles are being spent to replace peacekeeping forces personnel in the CIS's hot spots every two months. In the process, note that servicemen are leaving for the permanent deployment location of their units with combat vehicles and weapons. And that is tens, hundreds of trucks, armored transport vehicles, armored infantry vehicles, and tanks... The transport movements are being carried out primarily by military aviation—the most expensive form of transportation. Suffice it to say that the operation of one aircraft costs several million rubles per hour. And today rail transportation is not much cheaper.

But, instead of that, wouldn't it be more rational to pay a monthly monetary compensation of, say, R200,000 or R300,000 to peacekeeping forces servicemen? Then it seems to me that the majority of them would extend their contracts for a second or third term. At least those terms appeared to be extremely attractive to everyone with whom I had the opportunity to speak.

The state would also gain. In this case, the need for large-scale transport movements of troops would be reduced to 4-6 months as a minimum which is many times more advantageous than "saving" on peacekeepers' salaries. And at the same time, one would hope for real social protection of soldiers, sergeants and officers who are accomplishing this noble and, at the same time, dangerous mission.

So far the results of the research conducted this year by specialists of the Volga Military District military-sociological department in the Dniester Republic, South Osetia and Tajikistan attest to the reverse. So, 96% of the peacekeepers polled consider their social protection to be unsatisfactory. And the low salaries of soldiers, sergeants, warrant officers and officers and the quite insignificant compensation for performance of duties under special conditions is, in their opinion, one of the main causes. Ninety one percent of polled respondents indicated that.

In response to the question, what monthly compensation amount would suit you to perform duties in special conditions, it's interesting that 91% of the warrant officers and officers indicated sums within R50,000-80,000. Soldiers and sergeants (71%) suggest that compensation should be from R20,000-50,000.

I think that the soldiers and officers were excessively modest during the appraisal of their labor; because today few people would be found who are willing to extinguish the fires of interethnic wars in the CIS countries for that kind of money. It's no wonder that the command authorities are as before experiencing great difficulties manning newly formed peacekeeping subunits with specialists from among volunteers. And the chronic lack of personnel in a number of Russian Army units is further aggravating an already difficult situation. Therefore, besides increasing salaries, 98.2% of the servicemen polled see the solution in changing the principle for recruiting soldiers, sergeants and officers in peacekeeping units. Some think that their manning must occur based upon contract and only from among servicemen who are on active military service (46.1%). Others think that this is already inadequate and suggest we also need to take volunteers from among "civilians" (48.7%). They have in mind reserve soldiers, sergeants and officers. In the opinion of the respondents, military commissariats could become "recruitment centers" in this case.

But I don't think that any of these proposals in and of themselves will fundamentally change the situation that has developed. A series of measures is needed here that will not only make service in the peacekeeping forces attractive and advantageous but will also ensure the best conditions for manning the peacekeeping forces with deserving young men and in accordance with their desires and inclinations. Anticipating events, I will note: Here the law on the status of a peacekeeping forces serviceman alone will be inadequate. A special state program will be required that would consist, first of all, of the issues of the military-professional orientation of young men for service in the Army. And this is both advertising and "recruiting" of young men for military service under favorable terms and military-professional selection. And, of course, a high level of material support and social protection of servicemen. I have in mind both an adequate salary and wage increases, a lump-sum bonus, and compensation for rented housing.

However, I repeat that it is premature to talk about this right now. Judging by everything, the Ministry of Defense must save even while insuring servicemen. Which is also one of the reasons that is making service in the peacekeeping forces unattractive for all categories of servicemen. For example, when they showed me articles in the text of the contract that define the expenditure for a wound or death, I became ill. In our days, you can't even purchase a television for R100,000. It would be adequate for a decent funeral. But that is what a family is paid in the event of the death of a serviceman.

It's no accident that nearly 100% of the warrant officers and officers polled in the Dniester Republic, Tskhinvali and Tajikistan think that the amount of the insurance sums in the event of a wound should total no less than R200,000-250,000 and, in the event of death, R1 million.

Soldiers and sergeants (71%) think that insurance payments should be R100,000 and R500,000, respectively. And practically everyone (95%) agrees that quarterly indexing of all payments while considering inflation and price increases for food products, services, etc., must be a special term when signing a contract for service in the peacekeeping forces.

For now, indexing all payments remains primarily on paper. Just like the priority apartments, five salaries, and additional leave after carrying out their duties in an interethnic conflict zone that were promised to the peacekeepers. It's not surprising that this makes the rights of peacekeeping forces servicemen quite vague. Ninety eight percent of the soldiers, sergeants, warrant officers and officers who participated in the sociological research indicated that. It's easy to guess what this can result in if we recall that already today there are few people who want to place themselves in the line of fire in CIS hot spots.

So, where is the solution to the situation that has developed?

Some see it in manning peacekeeping forces subunits on an equal footing with ordinary military formations. I am certain that many people will not agree with that, including the Committee of Soldiers' Mothers. Others count on civilized approaches. For example, 94.8% of all categories of respondents polled pin their hopes on the adoption of the law on the status of a peacekeeping forces serviceman. Actually, many, if not all, of our current problems would recede in this case. But the question is, when will it be adopted? For now, the uncertainty in peacekeepers' rights and obligations, weak social protection and the long wait of peacekeeping forces officers for their replacements remain.

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Combined Arms Reorganization to Fit Corps-Brigade Structure

94UM0059B Moscow VOYENNNY VESTNIK
in Russian No 7, Jul 1993 (Signed to press
21 Jun 93) pp 51-53

[Article by Candidate of Military Sciences, Colonel V. Ryazanov and Major A. Petrov: "Is the Structure Effective?"]

[Text] At the present time we need to substantiate the advisability of creating new or modernizing existing combined arms formations as a result of reform of the Armed Forces and their shift to a corps (brigade) organization. Given of a drastic reduction of appropriations for defense, it is important to do this from the economic point of view; that is, to assess the military-economic effect that will be obtained from changing army structures. We have developed two methods for this assessment. Let's examine them based on the example of comparing an existing (TB_e) and hypothetical (TB_i) (e—existing, i—improved) structures of a tank battalion. (See the table).

Structure of Combined Arms Formations

Subunits	TB _e	TB _i
Tank company	3	2
Motorized-rifle company	—	1
Mortar platoon	—	1
Reconnaissance squad	—	1
Air defense squad	—	1
Support services platoon	1	1
Maintenance section	1	1
Battalion aid station	1	1
Cost of arms and military equipment, thousands of rubles	48,666.675	52,560.00

NOTE: Prices for arms and military equipment were taken arbitrarily to illustrate the methodology and approximate 1989 scales.

The first, simplified method permits us to compare expenditures to create the new (modernized) structure. For the assessment, we took general indicators that include the cost of arms and military equipment, expenditures for maintenance of personnel, arms and equipment in a recalculation per year and national income that the state loses as a result of diverting the able-bodied population for service in the army.

Calculations showed that the cost of the existing structure for the primary types of weapons and military equipment that are in the battalion's combat subunits total C_e = 32,444,400 rubles. In the modernized structure, equipment costs are R35,994,500. Changes in the equipping of combat, rear services and technical support units and subunits are inevitable. In the variant being

examined, this will be expressed in the increase of the overall cost of equipment by 8% ($C_e = R48,666,700$, and $C_i = R52,560,000$).

Expenditures for the maintenance of personnel of the modernized structure over the course of a year can increase by 24% and total R1,054,400. So, the total cost of the hypothetical structure of a tank battalion could total R54,780,500 which is 9% higher than the existing structure. That is the content of the first method. As we have already pointed out, it is quite simple and an improved methodology is needed for analysis and making a decision.

It is important for us to determine the economic effectiveness, or, in other words, the advisability of modernization. To do this, we need a quantitative measure that permits us to substantiate the decision on the conduct of measures at the preliminary stage and to assess the effect obtained at the concluding stage. The research conducted in this direction in MGFA's [not further expanded] military financial-economic department under the direction of Doctor of Economic Sciences, Professor S. Vikulov permitted us to develop several recommendations.

So, it has been established that, while considering the specific features of the military end product, the modernization effectiveness criterion must, first of all, contain a quantitative assessment of the increase of the quality of the structure, while proceeding from its overall purpose. Second, it must take into account all types of additional expenditures caused by the need to increase quality and the military-economic effect obtained as a result.

In our view, it is advisable to utilize the difference in expenditures to accomplish the same combat mission of the existing and modernized structures. Spatial-time standards and expenditures for the accomplishment of the combat mission by some structures or other and by the criterion—their difference—are the indicators here.

$$\Delta E = T_e C_{ca}/V_e - T_i (C_{vi}/V_i + C_i - C_e/R + C_{okr} + C_{osn}/NR + C_{vi} + C_{ve}/R) (1),$$

where E is the structural modernization effect.

Let's examine certain indicators in more detail.

C_{ca} —the cost for a battalion of the existing structure to advance on an offensive into the depth 1 km. Condition: It operates in the direction of the main strike of the higher formation to the depth of the latter's immediate objective; that is, until the proposed replacement of the attacking battalion by the second echelon. In order to determine that number, you need to divide the cost of accomplishing the combat mission by the battalion by the rate of its advance. In our example for the TB_e , the rate of advance on average totals 1.5 kph, for TB_i —2.5 kph (they are designated by V_e and V_i , respectively). For the modernized structure, we designate the cost of the advance C_{ai} . Calculations have demonstrated that, based

on existing standards, the cost of accomplishing the immediate and long-range missions (calculated as the total cost of lost arms, combat and other equipment, ammunition, POL, etc., for the entire period of accomplishment of the combat mission) by a battalion of the existing structure could total R3,636,800 and, by a battalion of the modernized structure—R4,112,100. Consequently, C_{ae} and C_{ai} will equal R2,424,500 and R1,644,800, respectively.

$T_e (T_i)$ —the time required to accomplish the combat mission by the existing (improved) structure battalion. In our calculations, these amounts will be equal to seven hours (10 km: 1.5 kmph) and four hours (10 km: 2.5 kph), respectively, where 10 km is the depth of the battalion's combat mission.

$C_i (C_e)$ —the cost of the modernized (existing) structure. During the calculation of this indicator, we need to take into account the cost of all weapons, combat and other equipment that are equipped with one normal munition load, one POL refueling, and the personnel cost; that is, the national income that the state loses as a result of diverting the able-bodied population from material production (R4,800 per year per person).

R —the combat service life of the modernized structure. This indicator characterizes the capability to accomplish combat missions (with the continuous conduct of battle) until the loss of combat capability (without taking into account the measures for its restoration) and is expressed in hours. It is thought that a subunit can conduct an offensive until losses in the main types of weapons and combat equipment exceed 35%. Let's take the indicator of the combat service life of the formation being examined as seven hours.

$C_{okr} (C_{osn})$ —additional expenditures of material resources, labor and financial resources needed to conduct NIOKR [scientific research and experimental design work], production and MTO [logistics support] of improved models of equipment. In the variant being examined, modernization is being carried out based on existing models and equipment (without the production of major lots of new ones) exclusively through reorganization. Based upon experience, expenditures total 0.04-0.06% of the cost of the entire structure. In our example, this indicator in total ($C_{okr} + C_{osn}$) reaches R39,200.

N —the number of modernized structures. Let's take it as equal to 50.

$C_{oi} (C_{oe})$ —expenditures for the operation of equipment of the modernized (existing) structure during the course of a year. They can reach 0.07% of the total cost of the structure (C_{oe} —R35,100, C_{oi} —R38,400).

Based on available data, let's conduct the calculations using formula (1).

The result ($E = R60,900$) attests that the proposed modernization is acceptable from the military-economic point of view.

However, the effect of modernization of the structure is a combination of the effects of the consumer (the Armed Forces) and the manufacturer (the sector of the defense industry). Therefore, it makes sense to assess them separately.

$$\Delta E = T_i [C_{ca}(T_e/T_i - 1) + C_{oe} - C_{oi}/R] - T_i [C_i - C_e/R + C_{okr} + C_{osn}/RN] \quad (2)$$

Using this formula, we calculate the difference in the size of the effects of the consumer and the manufacturer. If the size of the additional expenditures is less than the military-economic effect obtained by the consumer, modernization is advisable. Otherwise, modernization is economically ineffective.

In our example, ΔE , calculated using formula (2), totals R4,617,724 which makes modernization economically effective.

The methodology described above presents broad possibilities for assessing and making decisions on the creation of new or the modernization of existing structures of combined arms formations. The reorganization example taken by us is characteristic for those historical periods when financial-economic difficulties arise in a state. However, that path leads to additional expenditures in other budget items.

Besides the examined variant, modernization is possible to increase the formation's combat service life or to increase the size of modernized structures. We must consider the latter variant to be least effective. Our conclusions confirm the experience of modernizing structures in the U.S. Army where the military-economic effect was attained by creating a small number of formations that have a high combat potential.

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C3 Data Security

94UM0059C Moscow VOYENNNY VESTNIK
in Russian No 7, Jul 1993 (Signed to press
21 Jun 93) pp 54-56

[Article by Captain-Lieutenant V. Lavlinskiy: "Protection of Information in an Automated Command and Control System"]

[Text] *The experience of modern military conflicts and exercises shows that the time available for a commander to make a decision in the process of combat operations is steadily decreasing. Automated control systems (ASU [avtomaticheskaya sistema upravleniya]) can render substantial assistance under these conditions.*

Therefore, research of the problem of unauthorized access to information that is circulating in an ASU will be interesting not only for specialists.

At the present time, ensuring the security of information that is located in automated command and control systems (ASU) is becoming an urgent problem. At our

society's current stage of development, the adopted law "On Legal Protection of Programs for Computers and Data Bases" does not completely solve the problem of protection from "computer piracy" and, moreover, it does not protect against unauthorized access to information that is located in military computer networks. One example of this unauthorized access is the "computer virus" developed by U.S. National Security Agency experts and introduced into computers before the initiation of combat operations in the Persian Gulf. This computer virus' task was to destabilize command and control of Iraq's aircraft. According to statements of U.S. officials, "...the virus' assigned goal was achieved"¹.

Recently, the role of systems that protect information from unauthorized access has increased as a result of the rapid development of computer networks and various types of systems (including military) based on personal computers (PC's), their geographic separation and the increased flow of commands, data and messages that circulate in them.

What steps do we need to take for the guaranteed, reliable protection of these networks and systems? What principles must we take as a basis in order, on the one hand, to prevent leakage and distortion of information during a definite period of time and, on the other hand, to prevent additional inconveniences and incommensurable expenditures for the user?

The primary problem at this stage consists of planning and implementing protection and also determining a reliable assessment of the security of the information.

Today, a multitude of different information protection systems and methods already exist. The very latest achievements of science have been used and are being used, and leading technologies are involved to their development. However, it is quite difficult to create an integral picture of all capabilities of protection. And so far, there is no single theory of protected systems, although many approaches and points of view exist on this score.

The task of determining a reliable assessment of the security of information in a protected ASU has also not been resolved at this moment. The lack of characteristics of the processes of unauthorized access to protected information on the whole does not allow the development of simple and effective methods for assessing protection systems and information security in a protected ASU. Therefore, an analysis and description of the processes of unauthorized access to information in a protected ASU will provide the capability to mathematically model them and to obtain an actual assessment of the quantitative characteristics of these processes.

In the article presented below, we examine one of the approaches to the analysis of the processes of unauthorized access to information protected in an ASU.

Modeling the Processes of Unauthorized Access

Based upon its algorithm, the process of unauthorized access to information protected in an ASU is similar to the methods of unauthorized access to information that is located in personal computers, networks, data bases, software application packages, etc., and is differentiated only by protection techniques and systems. Essentially, you can present any attempt to penetrate to this information as a "competition" between an abuser (a hacker) and the protection systems developer. You can easily demonstrate this confrontation in the example of "implanting" an elementary protection mechanism called a "dump trap".

As we know, the majority of PC's have RESET and BREAK keys or a combination of keys that is similar to them. They permit termination of the execution of the current program and transfer the computer to a given state based upon a default and transfer control to the user. If the computer is executing a program, then when these keys are pressed, control is transferred to the hacker who can employ any means provided by the computer or by the operating system to read the program in memory and to analyze it.

They began to introduce "dump traps" in order to prevent hackers from placing the computer in entry status and printing out the program. At the moment in time when the dump occurs, the computer executes a series of commands that are stored in the ROM [read-only memory] and RAM [random-access memory]. A program, using a "dump trap", changes the commands stored in RAM in such a way that the dump does not end normally. If the hacker pushes the dump key, the computer either returns to the program being executed or erases the program in memory. In any case, the hacker does not get control.

In response to this step, hackers have changed standard ROM's to ROM's in which a dump does not cause the computer to access RAM. After processing the dump, this modified ROM that has been unofficially distributed among hackers accesses a built-in debugger that permits them to preserve the current program in memory. In order to prevent that, software producers have developed a utility that verifies the ROM standard. If the ROM is not standard, the program is not executed.

This example graphically illustrates the confrontation of the hackers and the protection systems' developers, revealing certain advantages of the former over the latter. For the protection systems developers, this "struggle" is being complicated by the concealment of the moment in time when the hacker begins to circumvent any protection system. That is, timely data about the moment in time when unauthorized access to information begins is frequently absent if the unauthorized access does not obviously distort or violate the normal operation of a protected ASU. Consequently, besides the development of the protection systems themselves, we need to have simple and effective methods for assessing protection systems and the

security of information in a protected ASU as a whole in order to prevent unauthorized access.

Therefore, the primary task of this article is the analysis of the processes of unauthorized access to information in a protected ASU and the development of proposals to model them for an actual assessment of the quantitative characteristics of the processes being examined.

As a rule, we are required to conduct two preparatory stages to carry out an unauthorized access to information in a protected ASU: Gather information on the system and the protection systems in it and also carry out attempts to enter the system. Accessing protected information to capture or distort it is the primary task of these stages. Therefore, if you take the system's capability to withstand unauthorized access attempts as resistance, we characterize the moment direct access to protected information is carried out as a violation of this resistance.

The development and growth of a variety of protection devices (1), the dispersal of the most protected information and also information about protection systems and the protected ASU on the whole (2), and also the skills of the individuals who are carrying out the unauthorized access (3), and dissipation of protection systems and protected ASU structures (4) have an impact at the moment an unauthorized access is carried out.

While proceeding from these factors, the following functional equation can be a limiting factor while determining the sphere of resistance of a protected ASU:²

$$dx(E,t)/dt = F[x(E,t), L(E)],$$

where $x(E,t)$ —the integral characteristic of a protected ASU;

E —the parameter of coordination of the protection systems between itself and the hackers;

t —time;

$L(E)$ —the function of the communications of the protection systems and the hackers.

It is advisable to regard the entropy of the system that can be presented by the two components as the parameter E : The entropy caused by the changes within the system (the first and fourth factors), and the entropy that arises due to the interaction of a protected ASU and the hackers E_R (the second and third factors). A change of the structure of the system and its resistance causes a change of the system's entropy. (The entropy of the system that is located in balance is maximum).

Based on the use of a mathematical device of the thermodynamic theory of the structure of resistance³, we can shift to the system of ordinary difference-differential equations and describe the trajectory of the development of a protected ASU in the phase plane. This system of equations together with the conditions of resistance permits us to present a model of a protected ASU and the

processes of unauthorized access to the protected information in it. In a similar type, this model reflects the primary features of the protected ASU, one of which is continuous adaptability to the changing internal and external conditions of its existence. This specific feature shifts the confrontation of the developers of the protection systems and the hackers.

In accordance with the theory of difference-differential equations⁴, for this system of equations to have a single solution, the initial conditions for E must be assigned not in the initial segment of E0 but in the terminal segment of $\Delta E0$. So, if the condition of the initial interaction of the elements of a protected ASU that is described by these equations has been assigned, the structure and nature of the interaction of the system's elements will legitimately be developed as the only possible technique in the process of further functioning.

We can take a similar model of a protected ASU in this form as the basis of the imitated model of a protected ASU developed on a PC with the goal of gathering statistical data to determine the characteristics of the processes of unauthorized access to protected information.

Footnotes

1. See: "Elektronnyy virus stanovitsya soldatom" [An Electronic Virus Becomes A Soldier]—ENERGIYA, No 9, 1992.

2. A.K. Aylamazyan, K. Gubarev, and A. Berezin. "Ob odnom podkhode k opisaniyu otnositelno ustoychivkh vo vremeni otkrytykh system" [On One Approach to the Description of Relatively Open Systems That Are Stable in Time], PROBLEMY MSNTI, No 3, 1978, pp 11-19.

3. I. Prigozhin and P. Glensdorf, "Termodinamicheskaya teoriya struktury ustoychivosti i fluktuatsii" [Thermodynamic Theory of the Structure of Resistance and Fluctuation], Moscow, Mir, 1973.

4. E. Pinni, "Obyknovennyye differentsialno-raznostnyye uravneniya" [Ordinary Difference-Differential Equations], Moscow, IL, 1961.

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Military Significance of Cossacks

94UM0038 Moscow ARMIYA in Russian
No 11, 1993 pp 43-47

[Article by Colonel Petr Tkachenko¹ under the rubric "Department—Social-State Training of Officers": "A Cossack Without Service is not a Cossack?..."]

[Text]

Topic No. 14: "The Military Significance of the Cossacks in the History of Russia and Modern Times"—Viewpoint of a Military Writer

There are quite a few viewpoints and frequently polar-opposite views among researchers on the history of the appearance of Cossack society. But they literally converge on one thing—the Cossacks are a military estate, and a Cossack without service is not a Cossack.

The main and most honored duty of Cossacks at all times, of course, has been military service.²; that is, its performance in the field and internally, most often with the regular troops, and not only on their native soil but across all of Russia. The service was very hard. There were many reasons for that. One of them is the fact that the military obligation before the beginning of the 19th century was served without any rules whatsoever—all men of the Cossack race and tribe served to a man, as long as they had strength, according to the traditionally accepted sequence. In order to understand what that could signify, I will cite these figures: The Cossacks were one fortieth of the whole population of the Russian empire in 1878, and one fourteenth of its armed forces. Another figure is also characteristic. In order for a Cossack to go into the service at, say, 1880 prices, he paid on the order of 150 rubles alone. Quite a bit of money, which of course far from everyone had. Many of those desiring to sign up for Cossack service were refused namely for the fact that they could not pay it.

The Don, Kuban, Terek, Astrakhan, Siberian, Semirechye, Transbaykal, Amur, Ussuri and other Cossack hosts existed in the Russian empire by the beginning of World War I (see table). The largest were the Don and Kuban, from which people were required most often for the creation of new troops or the reinforcement of existing ones. There were also separate Cossack squadrons in Krasnoyarsk, Irkutsk and Yakutia. The Cossacks performed border service, and their garrisons were located in many of the provinces of the country and in major cities. A Persian Cossack brigade was even created, and a Euphrates Cossack host existed after 1912 up to the Civil War. The personal convoy of His Imperial Majesty was formed from the Kuban and Terek Cossacks. There were Cossacks of the ataman's bodyguard and the bodyguards of the Don and Svod regiments in Petersburg and Tsarskoye Selo. The table gives the total number of individuals in the Cossack estate. More than 450,000 of them were service personnel. By the beginning of World War I there were 54 cavalry regiments, 20 batteries, 6 dismounted battalions and several separate squadrons, or 68,000 men in all; during mobilization there were more than 150 regiments, 40 batteries, 18 dismounted battalions and dozens of individual squadrons.

Number of Cossacks in the Russian Empire, 1838-1916

Hosts	Total individuals in military estate of both genders			
	1838	1871	1897	1916
Azov	5,496	—	—	—
Amur	—	19,250	19,700	49,000
Astrakhan	12,500	20,734	26,627	40,000
Don	428,526	691,152	1,026,263	1,405,000
Danube	6,780	—	—	—
Yenisey	—	—	—	10,000
Transbaykal	—	125,517	181,474	265,000
Caucasus Line	140,823	—	—	—
Kuban	—	427,765	702,432	1,367,000
Orenburg	78,948	252,928	350,614	533,000
Semirechye	—	14,369	25,369	45,000
Siberian	88,576	87,754	113,546	172,000
Terek	—	120,409	162,158	255,000
Urals	50,322	81,104	110,988	166,000
Ussuri	—	—	7,040	34,000
Black Sea	109,410	—	—	—
Yakutsk regiment	—	—	—	3,000

The military leader Suvorov said that one needs skill rather than numbers to triumph. It has indeed always been skill that has distinguished Cossacks in battle. We will recall, albeit in brief, their principal heroic deeds.

Historical information. In 1552 two and a half thousand Cossacks were the first to break through to besieged Kazan. Some 6,000 Cossacks took part in the taking of Polotsk. A fifth of the Russian Army consisted of Cossacks—both free and service—during the attack of the Crimean Horde on Moscow in 1572. Many Cossacks took part in the difficult Livonian War. Some 500 Don Cossacks, for example, took part in the heroic defense of Pskov. The name of Ataman Yermak Timofeyevich, who had served the tsar for many years before that at the southern frontiers, became renowned for the first time in that war. Tsar Ivan IV, the patron of Siberia, gladly accepted a Cossack *stanitsa* [village] from Yermak in 1585, and entrusted his Cossacks with building up the captured lands.

At the same time, as some Cossacks were fighting in the West and in Siberia, others were waging war with the Nogay hordes in the Volga region. They twice burned the Nogay capital of Saraychik, and routed the Tatar detachments in their forays into Rus.

The Don Cossacks of Atamans Mezhevik, Markov and Yepanchin comprised the best trained units of the militia of Prince Pozharskiy. The saying arose in Rus at that time, "The Cossacks came from the Don and chased the Poles home." And what about the taking of Azov and the storied "Azov hold-out"—a heroic martial deed by all of the Cossack hosts!

The Cossacks, as part of the army of Peter, took the fortifications that were blocking the Don in 1695. The first victory of Russia at sea was won by Cossacks on 21 May 1696. Some 6,000 Cossacks in boats headed by Peter I and flotilla Ataman Minayev smashed a Turkish fleet that had supplied the besieged Azov.

The Cossacks were called to war against the Swedes in 1701. Legend has it that during the siege of Vyborg, Peter I was saved from death by a Don Cossack: Hearing a flying ball, he knocked the tsar off his feet and covered him with his own body. And the gloried hero Krasnoshchekov—the scourge of Caucasians and Swedes! His raids with Cossacks on the nomads and Swedish soldiers were always distinguished by the daring and bravery of the warriors.

The Cossacks were the first to go on the march, armed with pikes, in 1738, but the art of firing from a bow had long flourished among them. The Cossack cavalry charge during the Seven-Year War of 1756-63 triumphed over the dragoons of Friedrich at Gross Egersdorf, and overran the German Hussars at Zorndorf and the black immortal Hussars in Silesia; the Cossacks independently took cities as well. They then came under the command of Suvorov and accompanied him on all of his victorious marches.

The Platov Cossacks covered themselves with truly everlasting glory in the war with the French in 1812. There were 6,000 Don Cossacks among them alone, and each was, as they say, worth two in his skill and combat mastery.

The harshest and most unprecedented service befell the Don regiments, distributed among the infantry divisions, during the Russo-Turkish War of 1877-78—in the forward positions, and in desperate clashes with the Turkish *bashibazouk* riders. They held their honor and stood fast.

The 20th century also left its milestones in the military history of the Cossacks, brutal notches on the memory—World War I, the Civil War... Up to 1935, the Cossacks, now stricken from the list of peoples of the USSR, were legally recognized to exist through the stupidity of the bureaucrats—they were not permitted to serve in the Red Army under a law of the times. The threat of World War II destroyed that law. Stalin created special assault units and formations of Cossacks that fought courageously on many fronts of the Great Patriotic War until the victory, and were disbanded after that.

...

The military services of the Cossacks to the Fatherland, as we see, are great, and their prowess and their combat experience are considerable. How is what has been accumulated over centuries projected onto the current day, what does it give the descendants of the Cossack freemen? The answer to that question would not seem able to be found without an evaluation of the current overall socio-political situation in the Cossack environment, without an analysis of the process of the resurrection of the Cossacks that is transpiring today.

The Cossacks are being resurrected... Well then, be glad, let your soul rejoice! That which has long been dreamt of has finally happened. And the very name Cossack, once pronounced in a whisper, seditious and persecuted, is once again filled with pride and dignity.

But here I cannot get away from the question of just why Cossack society, today in particular, has it made itself known? Probably because Russia has always recalled them during hard times. And it has remembered them now. But some politicians, by all indications, for some reason consider the Cossack question to be a secondary one and are genuinely surprised at where it came from. They tried to lay their hands on it right away. How? By the creation of "their own," domesticated Cossack organizations (thereby introducing a schism into the movement), and by all sorts of compromises. But ever since Russia has recalled the Cossacks, when about two years ago the Moscow Society of Cossacks, and then the Union of Cossacks, was formed for the first time, and then Cossack organizations were created in the local areas, a clear turnaround has ensued in the popular awareness. The idiocy of the perception of the Cossacks for more than seventy years as the "satraps of tsarism," supposedly created only to protect its institutions, has been laid bare. It has been gradually revealed that this is an ancient formation that traces its roots back to the times of Ancient Rus. It has been recalled and clarified that this is not some mysterious tribe, but rather an "unusual phenomenon of Russian strength." Consequently, if the Cossacks society is a unique and original phenomenon of Russian life, then its resurrection is a sign of the resurrection of Russia.

As was to be expected, they have tried—in our politicized-to-the-extreme society—to drag the newly declared Cossacks, unsuccessfully, into political intrigues and to present them as nothing more than another party on the

political map of the country. And there, reap the whole traditional set of intrigues of political struggle, in which everything that is really alive drowns. That is essentially what is still happening. The Society of Cossacks of Moscow had scarcely had time to get organized when a schism was detected in its ranks, which ultimately split it into two societies that—as is natural in such cases—hate each other and play the most petty of tricks on each other at every convenient opportunity... The Union of Cossacks formed in June of 1990 was re-registered in 1992 as an All-Russian Social Association, but the Union of Cossack Hosts of Russia, also a social association, had already registered with the Ministry of Justice in November of 1991... On what basis did the split occur? Naturally, the same ones for which all of our society has been split. There are perhaps no other special reasons here. Not into "whites" and "reds," in which was salvation and as they tried insistently to depict it. One Society and Union would seem to be especially passionate for today's progressive changes, but there is frank extremism therein and such political militance and intolerance that there is actually little left there that is Cossack. The other Society and Union are seemingly propagating good conservatism, but at every step there are the familiar habits of the communists of recent times. And everybody bows to Orthodoxy and loyalty to Cossack precepts.

This split should not be particularly mourned or dramatized in principle. The fact is that a certain strange "schism" is inherent in the principle of Cossack society, perhaps from the very beginning, in its very nature. It has been "split" for entire centuries while remaining itself. Recall that the Zaporozhye Cossacks have eternally opposed the Ukrainian Cossacks, the city ones, the *haydamaks*. The Don Cossacks are split into upper and lower ones. And the beginning of that split, as written by M. Sholokhov in *Quiet Flows the Don*, "took shape hundreds more years ago." The Kuban Cossacks were split even more distinctly into Black Sea and Line, since there were even language distinctions at the basis of it. But none of that kept either the Don or the Kuban Cossacks from constituting an integral community. What does that intrinsically testify to? The instability of the Cossack way of life? Quite the contrary. This testifies to the surprising tenacity of the Cossack way of life, to the fact that as a social system that takes shape from elements of different natures, constituting a diverse unity, it has thereby, as it were, gained a protective immunity from both external influences and from destructive mono-thinking. It has thereby found a saving equilibrium in its own self.

The split that has taken shape in Cossack organizations today is seemingly no drama. And everything here would amount to nothing, as they say, if the Cossacks had split up along the lines of some natural trait as I have been talking about. But it has split up according to another trait, after all, the same one, I repeat the thought, on which all of our society has split. And that means that the whole cause of resurrection could prove to be threatened.

The Cossack movement by the way, has undermined its reputation from the very beginning by the fact that it has, along with the Cossack uniform, which is natural, also donned officers' epaulets for reasons unknown. It has, that is, been reduced in status to a military-history club, and more precisely to a masquerade. Whoever was evidently keeping the Cossacks under control, still not believing that it could spill over into such a mass movement, felt that that would be enough to compromise it. In any case, S. Shakhrai asserted in those times, by way of example, that if Cossack units were created there would be no epaulets (Cossack captains).

The Cossack organizations soon suddenly remembered permitting only real officers to wear epaulets and translating the military ranks into Cossack ranks. They set up their own system of promotions, which of course did not essentially change matters. And it turned out that the social organization, without troops, has its own promotions and ranks, some kind of game, just an amusement.

But that was at first. Today, the resurrection of the Cossacks has somehow suddenly been reduced to the military aspect of the matter. Why? Perhaps because the draft into the army is being disrupted along with all the other destruction in the country. What now? An urgent necessity exists of shutting a hole opened up by the Cossacks. The situation, after all, has worsened to the extreme! And this matter has not proceeded without oddities either. KRASNAYA ZVEZDA had an item that in Altay Krai—the sole area of Siberia where the plan for call-up for army service has been able to be fulfilled—the threats of physical reprisals against the officers of the military commissariats and their families have become more frequent.

This is strange information. Who would explain to us intelligently just what these reprisals are, just what saboteur groups are ransacking Russia? Racketeers and robbers would still be understandable; they have their own aims. But what does this signify? The fact that weapons have appeared in the hands of the peasants. They have appeared because there is an edict that permits individual peasants to have smooth-bore weapons.

Resurrection of the people? The Cossacks have unfortunately been drawn into this process as well.

In my opinion, this thrust toward the military aspect of the matter that has always been observed and is observed today in Cossack society is not of a Cossack nature at all. As strange as it may sound, it is so. The resurrection of the Cossacks as a military organization is just a partial manifestation of the armament of the people, the dangers of which we have not yet fully realized.

To the extent that actual officers, thrown into the abyss of disbelief, tired of uncertainty and spiritually overtaxed, remove their epaulets and scatter off across Russia in search of new fates, to the extent that they, in most cases, wonderful specialists, try again to turn into farmers, many suddenly felt some strange and seemingly unexpected gravitation toward the institution of officers.

Epaulets have suddenly begun to shine on the shoulders of young people, united in all kinds of historical clubs. Detachments of the "White Guard" are being organized in Rostov-on-Don, Petersburg, Novosibirsk, Omsk and other cities. Understandably, these are not now "historical clubs" (the Cossacks are essentially in this rank as well). And all of this, occurring as if in defiance of official military policy.

It is a good thing, of course, when young people display an interest in our national military history. But it is for some reason being manifested in society simultaneously with the flouting of the honor of today's officers, the genuine ones, and acting as a replacement, as it were. But all of these militarized tourist marches, historical formations and epaulets, after all, are just a masquerade in this situation.

The anti-army hysteria in society has been replaced by tolerance in relation to the army, playing-acting, a kind of idiosyncrasy. I met a nobleman in Moscow, Lieutenant Mikhail Istinov (so he introduced himself), heading a military-history club of four people in Riga. A patriotic television program depicted this club and its leader as resurrecting the traditions of the Russian military institution. But having met with the "lieutenant" who had already visited the Dniester region, in proof of which he produces some certificate on the spot, I understood that this person could not get out of the role at all, that ineptitudes should be occupied with such personalities.

Cossack Ataman (Gennadi) Kotov came in from Volgogradsk. He understands his position thus: "I am a captain, but I am a colonel." He is, that is to say, a regular officer, a captain in the army existing at the given moment. But since he does not want to serve in that army, he has resigned. But he is a colonel under the Cossack hierarchy, that is, a military institution that does not exist, where anyone can consider himself a colonel. This is also an exceedingly dangerous kind of masquerade.

I met Field Ataman of the Union of Cossacks V. Naumov at the Krasnogvardeyskaya metro station. He appeared in his Cossack cap striped trousers, with a lash behind the top of his boots. I almost thought that perhaps some Cossack function was taking place. Not answered the "field ataman," he always went to work that way. But wait, the "field ataman" is in a social organization, and in fact is a Lieutenant-Colonel in the Russian Army, true, a "colonel" according to the Cossack hierarchy, a deputy in the Moscow Soviet.

This exotic look of the "field ataman" naturally attracted the attention of some good-natured person, a little tipsy but entirely good-willed. As I understood it he was trying to ascertain from the "field ataman" just what this all was, what his attire meant. And since he was a little older, he addressed the ataman using the familiar pronoun. And in reply he received a rebuff such as he never expected, and that the situation did not at all presuppose.

What is this, the childishness of a Lieutenant-Colonel playing at war, or a role that someone is defining for him? I admit that I do not believe in the childishness...

The recent Council of Atamans revealed yet another strange situation. It turns out that the Union of Cossacks as a structure able to control the Cossack movement and coordinate it simply does not exist. This is because the board does not maintain any ties whatsoever with the local Cossack organizations in the localities. A dispute and clarification also flared at the council: Who are the Don Cossacks for—the Union of Cossacks or the Union of Cossack Hosts? It seems to me that these questions should be clarified in the course of everyday exchange, and not at the Council. But evidently there is simply no such exchange. So just what is such an organization for, which only creates the outward appearance of a structure, a movement, while in fact it is not those and, understandably, impedes the actual organization of a movement? It is completely clear that the Cossack movement, if it wants to remain such, should be organizationally based on some other principles. I can give no prescription of what those are. Time will tell.

It looks like—I repeat the thought—that the current authorities and social forces, acting in most cases not according to the law but rather according to "revolutionary expediency," intend to make use of Cossack society quite unceremoniously for their own political ends once again. Moreover, that is not even being concealed. Take the history of the Danilov Market in Moscow, for example. It was transferred without compensation to the House of Trade of the Union of Cossacks by order of the mayor on 22 July 1992, which was naturally protested by the procuracy. The mayor, of course, justified his actions as "instilling order" in the Cossacks, that is, essentially directed them to illegal methods. It also turned out that aside from the Union of Cossacks, another seven of the founders are co-owners of the Hall of Trade. Most importantly, the Cossacks themselves living in Moscow have no relation whatsoever to all of this, and have no relation to the Society of Cossacks. Just what "Cossacks" intend to instill order and "cram" Moscow with produce? It is completely clear that unjust activity is simply getting a new look—Cossack...

There is something else to think about too, in my opinion. If Cossack units are instituted, the question will sooner or later arise of exactly what to do with the self-styled "colonels" of the Cossack movement and social organizations. There is one way out—seek out commanders for those units from among the Cossacks in the regular military cadres. If they prove to be "not right," if only because they understand the problem more deeply and are not just glad to be in a Cossack uniform, while the "right" ones become dressed-up colonels, the resurrection of the Cossacks will be able to be considered truly finished. This will be the masquerade continued at the state level...

The Cossacks, of course, could be resurrected instantly if events in Russia develop unfavorably. They could,

that is, be organized into a military force if the chaos constantly being provoked reaches its limit. There is enough powder, as they say... But God forbid we have such a "resurrection." That would be exactly the final ruin of Russia... The first symptoms of such a "resurrection," by the way, are obviously manifested in "regional separatism."

Today's Cossack organizations, social organizations in position and status, are painfully reminiscent in their attempts to set up their own military order. That is exactly how the *stanitsas*, the societies of Cossack abroad who were forced to abandon Russia after the Civil War, were organized. But they could have no other position. They were living in an alien country, providing refuge for them. Then why is there such a similar situation today?

Footnotes

1. About the author—Petr Ivanovich Tkachenko is a literary critic and military journalist. He completed the Ordzhonikidze Higher Combined-Arms Command School and the Literary Institute imeni M. Gorkiy. He is a staff member of the Military-Artistic Studio of Writers and a member of the Union of Writers.

He appears with feature and critical material in the journals NASH SOVREMENNİK, MOLODAYA GVARDIYA, LITERATURNOYE OBOZRENIYE, DON and PODYEM, among others, and in the newspapers LITERATURNAYA ROSSIYA, LITERATURNAYA GAZETA, RUSSKIY VESTNIK, PATRIOT and KRASNAYA ZVEZDA. He is appearing in the journal ARMIYA for the first time.

2. For a study of this problem we recommend the editorial discussion published in ARMIYA No. 18 with Comrade Ataman of the All-Russian Union of Cossacks Colonel Valeriy Latynin entitled "The Cossacks: Being Resurrected, Serving the Motherland," wherein the military fate of the Cossacks and their services to the homeland were shown along with the military-historical significance of Cossack society. The problems of the resurrection of the Cossacks occupy a large place in that feature as well.

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POLICY

Military Concerns Over Kuriles

94UM00484 Moscow SEGODNYA in Russian
No 68, 21 Oct 93 p 3

[Article by Vladimir Abarinov under the "Security" rubric: "The President's Modest Charm: Tokyo Summit Pleasing to Russian Military?"]

[Text] By all accounts, Boris Yeltsin's promise to withdraw all troops other than the border troops from the disputed southern islands of the Kurile chain did not

particularly impress the Japanese. On the one hand, it follows from the statement released that the islands possess no strategic value for Russia. On the other hand, there are not many troops stationed there and their removal could not affect the balance in the ATR [Asian-Pacific Ocean Area], but there is reason to doubt that in reality all of them can be pulled out. This is the information gleaned from a report specially prepared by the Russian Federation Ministry of Defense for use in parliamentary hearings dealing with the territorial problem.

On the island of Habomai there are no military installations, nor are there any military subunits stationed there. Located on the island of Iturup are a separate coastal missile battalion (four antiship missile launchers), a coastal artillery battery (four 100-mm artillery guns), a division of sea frontier ships (2 combatants), an observation and communications post, an air station on Vetrovoye, military transportation service, a signals intelligence unit, and a communications center. Stationed on the island of Kunashir are a radiotechnical platoon and a radio beacon maintenance team on Mys Lovtsova. Serving on the island of Shikotan (Shpanberg) are a hydrographic service unit, navigation equipment team, and radio beacon maintenance team on Shpanberg Cape. The aforementioned information makes it clear that a considerable portion of the military subunits stationed on the islands are involved with servicing vitally important facilities, and that the normal functioning of the latter (the radio beacon, for example) is also of interest to the Japanese.

As far as the Russian presence in the area is concerned, Tokyo looks upon the situation with concern. This is particularly brought out by the 1993 "White Book" for defense, in which this presence is characterized as a destabilizing factor. In this connection, Japanese experts point out that the Far Eastern military force is suffering a constant loss of its former power and combat capability. Compared with the year 1989, which set a record in this regard, the force's manpower underwent a reduction of 100,000 men, while the number of aircraft and Naval combatants dropped by 30 to 40 percent. By 1995, as stated by Andrey Kozyrev in July at the Singapore session of ASEAN, Moscow intends to cut its Far Eastern forces in half. Nonetheless, the Japanese side perceives all of this as a definite indication of Russian intentions to create a compact and modernized force.

Modernization is already proceeding at full speed. Fourth-generation combat aircraft have already appeared in the Far East; by the end of this year, this kind of craft will comprise half the air fleet. The number of T-80 tanks has been increased to 1 500. In light of this situation, Japan looks upon the promised withdrawal, and the reductions accomplished, as nothing more than a symbolic gesture. For example, removing MiG-23 fighters from the southern Kurile Island chain does nothing whatsoever to weaken the Russian system of

PVO [air defense], since the islands are "covered" by MiG-31s based on Sakhalin.

Worthy of mention here is that the Asian-Pacific Ocean area, traditionally considered to be one of the most stable and trouble-free, no longer is such. Raising the most concern, of course, are the nuclear and missile programs of the KNDR [Democratic People's Republic of Korea]. The area's countries are undergoing vigorous rearmament. The Gulf War, which demonstrated the formidable combat characteristics of medium-range missiles, initiated a veritable missile race in Asia. China, in particular, has deployed missiles possessing a radius of 1,800 km. India is developing its own missile, which offers a radius of 2,500 km. Pakistan is armed with similar missiles. Vietnam has modernized Soviet scuds in its inventory. Japan, in turn, plans to increase its military expenditures by 17% in the coming fiscal year. (This, at least, is according to the Japan Defense Agency.) A considerable portion of the monies allocated for weapons purchases will be spent in the acquisition of two airborne warning and control system aircraft units (AWACS). Also to be purchased will be a third missile system intended to destroy ballistic missiles and cruise missiles.

It is clear that the Joint Russo-Japanese Statement on Non-Proliferation of Weapons of Mass Destruction and Delivery Systems and Development of Transparency in Conventional Weapons signed by President Yeltsin during his visit is partially intended to limit possible Russian export. It is common knowledge that Russia intends to obtain her piece of the pie in the future Asian weapons market. Although the statement imposes no restrictions whatsoever on the sides, it does set down "the importance of multilateral systems related to the monitoring of exports of materials, equipment, and technologies which could be used to create weapons of mass destruction and associated delivery vehicles." This phrase was made a part of the text on the obvious basis of Moscow's numerous statements regarding her intention of becoming aligned with the missile technology monitoring system.

The events of the last few days lead to the assumption that not everyone in Russia is pleased with the military aspect of the documents signed in Tokyo. We are thinking primarily about the scandalous dumping of radioactive wastes into the Sea of Japan by a Pacific Ocean Fleet tanker. Clear disagreement with the joint statement on Cambodia resulted from the recent visit to Phnom Penh by a team of Russian military experts. On the insistence of the Russian side, the visit was surrounded by such a high degree of secrecy that an ITAR-TASS correspondent was even unable to ascertain the name of the delegation head. Just recall the Russian fighter's 31 August violation of the Japanese air space that "coincided with" the decisive phase of preparations for Yeltsin's visit. Sadly, it appears that serious talks dealing with the "northern territories" are hindered not by the peaceful residents of the Kuriles, but rather by someone wearing large stars on his epaulets.

Servicemen's Problems from Creation of Ruble Zone, Currency Withdrawal

94UM0069A Moscow KRASNAYA ZVEZDA in Russian
2 Nov 93 pp 1, 3

[Article by Lieutenant Colonel Ivan Ivanyuk: "The Ruble Zone and the Russian Army: Where Is the Road of Good Intentions Leading?"]

[Text] *Our unit deployed in neighboring Turkmenistan was subject to inactivation on 1 September. The unit, in which we had all kinds of allowances, was inactivated a month earlier. In connection with organizational measures, 30 officers, including myself, were dismissed to the reserves on 31 August under an order by the commander in chief. But the question of our final dismissal has not been resolved to this day. If this is decided in Russia, then it is necessary to send us officers already dismissed to the reserves back to Russia along with our service records. But for this there is no money in the account of our unit, which no longer exists. If we are dismissed locally, then we must first be sent somewhere but they will only give us money of the old form, which is not in circulation in Russia and can no longer be exchanged in Turkmenistan. No one knows what to do, because there has long since been no commander or deputy commanders in the unit and there are no communications with Moscow...—Lieutenant Colonel of the Reserves V. Nesterov, Krasnovodsk.*

I am categorically against the spread of penal terminology in normal language and especially through the mass media. But when you read such letters—and the editor's office has been receiving them almost every day lately—and hear the combination of words "ruble zone" that has become fashionable, you involuntarily imagine "zone" in the jargon of thieves as being the opposite of "liberty." As regrettable as it may be to realize this, precisely these zones of an economic nature in the territory of our once-unified country have resulted in the loss of elementary rights and liberties for thousands of Russian servicemen, our fellow citizens, certainly the right to provide for the vital needs of their families. And even when they were discharged to the reserves, they did not gain the freedom to move elsewhere.

But these people did not do anything reprehensible. On the contrary, they served their Fatherland faithfully and truthfully, even beyond its borders. How did it happen that they became hostages of political agreements and nonagreements between the countries of the Commonwealth?

"For an entire year now, they have not been paying us monetary allowances on time, and the last two months they have not paid any money at all," a large group of servicemen from that same Turkmenistan reported. Because of the lack of bank notes of the 1993 type, it has become impossible to go to Russia for service and family obligations, for leave..."

Objectively, a reference point of the main financial troubles for Russian servicemen in neighboring foreign countries was the hasty action by the Central Bank of

Russia to remove from circulation and to exchange bank notes issued between 1961 and 1992 that was carried out during the last days of July of this year. Ministry of Defense proposals to take into account the realities of the exchange process at "hot spots" in the groups of forces abroad and other extreme conditions that are so characteristic of life for the troops today were initially shelved. The task was resolved in the crudest way: Those who have a permit to reside in the territory of Russia could exchange their money at savings banks, and those who lack this had to make the exchange through the financial agencies of the military units.

We all remember very well, although it already seems that all this happened long ago, how under the pressure of public opinion they relaxed the deadline, increased the sums subject to exchange and considered some other everyday circumstances. But these measures, unfortunately, did not remove the burden of worry from many Russian servicemen. In particular, it was impossible to abide by the deadline. Then, at the intercession of the Ministry of Defense, the Central Bank sent a letter to its territorial directorates allowing them to exchange the designated sums through mass clearing centers regardless of the time of presentation, provided that the appropriate documents existed explaining the reason for the delay.

This resolved the problem only in part, because the set upper limit of 100,000 rubles per person as the exchangeable sum could not suit officers serving at places where they pay double but the commodity market functions so poorly that there is nothing to buy. And at some places they did manage to pay wages that had been held up for two months—naturally in old bank notes.

In the fall, the agencies already began to receive mass complaints with refusals to accept payments in paper money of this kind: You cannot buy anything with it in the countries where they are staying and it could be taken into Russia only for deposit. But this will create numerous problems in making purchases. And officers discharged to the reserves and wanting to return to Russia found themselves in a quite hopeless position. One such officer is Lt. Col. of the Reserves V. Nesterov, with whose letter we began today's talk. What can you say: It is not a happy prospect to receive 20 months' wages and only be able to exchange 100,000 roubles. But as we see, even this prospect is not always attainable.

It must be said that thanks to the persistent efforts of the Main Directorate for the Military Budget and Financing of the Ministry of Defense of the Russian Federation, all of the measures possible under these conditions were taken. In practically every region, it was permitted to issue personal orders for a monetary allowance to the serviceman for the last two months plus money for travel when used for leave. They can be exchanged either at so-called payment centers (true, there are still only a few of these) or (they found still another possibility) at military commissariats. They also thought of this version: To issue certificates to the families of servicemen remaining in Russia for a portion of the money allowance of the family

head. But of course, not all have families in Russia and this must be voluntary rather than compulsory. So there are still problems and the people continue to suffer, as shown by the letters of our readers not only from Turkmenistan but also from Kazakhstan, Georgia, Tajikistan, and the Dniester Region. In the most difficult position were the families of servicemen who remained in the territories of the republics where it is impossible to convert old Russian money—in Belarus and Ukraine.

What is the way out of the existing situation? Theoretically, it is in the establishment of that unified ruble zone that became a permanent part of our vocabulary after the heads of the member states of the Commonwealth signed the corresponding agreement on 7 September. But in practice? In practice almost two months have already passed and, as they say, the cart is still where it was. The initial enthusiastic responses to the effect that life itself has prompted states to move toward an economic union were rather quickly replaced by general skepticism: Is that really a utopia?

The fact is that the signed agreement is nothing more than a declaration of intentions. The first bilateral talks showed that there is more than enough friction between the negotiating sides. Indeed, how can one state retain its sovereignty and independence if it becomes part of the monetary system of another state? How can an independent policy be pursued if, for example, unified anti-inflationary measures are demanded—and they will be demanded—for all? The level of inflation in the countries of the Commonwealth differs greatly anyway—by a factor of about 2.5 between Uzbekistan and Belarus. And everywhere it is higher than in Russia, which, in the analysis of experts, threatens the latter with a very strong inflationary "shock."

"To hasten the merger of monetary systems at least in nearby but already essentially different countries with distinct principles for the functioning of the economy is a very dangerous thing and may do enormous damage to the interests of Russia," as Russian Minister of Finance Boris Fedorov assessed the situation. That is, a detailed study of the mechanisms for the protection of one's own economy and coordination of credit-monetary and budgetary policy are needed. It is necessary to establish a unified monetary and customs area and a single system for the organization of the foreign-exchange market and to standardize the legal base, etc. All of this takes considerable time. And people in a military uniform who have been placed by the will of politicians in a critical and sometimes hopeless position cannot wait that long.

What might be the ways out of the existing critical and intolerable situation? The first is to coordinate at the intergovernmental level the question of the introduction of Russian money of the 1993 type into other countries of the Commonwealth at least for those who are discharged to the reserves and leave for Russia. Without such agreements a step like that is nothing other than foreign-exchange intervention in the language of international law. The second way is to increase the limit of

the one-time exchange of money by the serviceman serving outside the current influence of the ruble zone, say, to a half year's money allowance.

One would like to believe that these questions will be removed from the agenda in the near future and that in the course of the bilateral negotiations already under way the emphasis will not be on momentary political or economic advantages but on the interests of people, including the interests of Russian servicemen, who are still a much greater cementing force for the CIS than is the still intangible unified ruble zone.

Commentary on Grachev's Press Conference on Military Doctrine

94UM0064B Moscow KOMSOMOLSKAYA PRAVDA
in Russian 4 Nov 93 p 2

[Article by Igor Chernyak: "Russia's New Military Doctrine: Both Doves and Hawks Are Now Thinking About It"]

[Text] Upon entering the building of the Russian Federation Ministry of Defense, the journalists were formed into a long line and searched. Foreigners, who appeared slightly dismayed, commented that they are now allowed even into Lubyanka without any problems. Their destination was a press conference with Pavel Grachev devoted to adoption of Russian military doctrine.

The Defense Minister announced that the new military doctrine is the first such document in the history of the former USSR and Russia: "Before, we took our guidance from congressional decisions, party directives and government decrees, but now everything has changed." The doctrine consists of three parts—political, military and military-technical. Several things can be noted about it. First of all, in distinction from the former Soviet Union, which had promised not to use nuclear weapons first, Russia has not taken such a pledge. It is of course stipulated in the doctrine that the Russian Federation does not view any country as its enemy, that it will not use military force against any state except for the purposes of individual and collective self-defense, and in addition, it will not use nuclear weapons against countries participating in the nonproliferation treaty. "But as for those that have such weapons, the text says nothing," Grachev shrugged, after which he noted that the USA hasn't made any clear pledges in this regard either, and gave assurances that one person, even if he were the president, would not be able to use nuclear weapons on his own.

The second thing is the permissibility of using the army within the country. Grachev rejected the suggestion that this idea was added to the doctrine after the events of 3-4 October: "The fundamental principles of the doctrine were developed a long time ago, and these events confirmed the correctness of our direction." As for who is to determine the need for using armed forces for "immediate containment of possible armed conflicts within the state," or to control public disorder, the defense minister gave no details, stating only:

"Someone other than me." As we know, a number of generals were recently opposed to adding such a mission to the text of the doctrine, but judging from everything, their arguments were disregarded.

Pavel Grachev's statement that there is no mention of a planned numerical strength for the RF Armed Forces in the military doctrine is also somewhat of a sensation. While before, according to the Law on Defense the number of servicemen was to be raised to 1 percent of the country's adult population, it is now recognized that the law was adopted without regard for the real situation, and the law had to be broken. It is interesting that in the past the Defense Minister talked in highly complimentary terms about the package of military laws. He gave a high grade to the Ministry of Defense's coordination with the parliament and interested departments during their preparation. But now Grachev feels that these laws were adopted in haste, by people incompetent in military affairs, and therefore that everything previously adopted by the Supreme Soviet and coming into conflict with the doctrine will be reexamined by the new parliament.

From this day forward, the Russian Armed Forces have also been granted the right to operate outside Russia if so required by the interests of both the Russian Federation itself and other CIS countries, as well as when participating in peacekeeping operations.

The Defense Minister emphasized that the doctrine was adopted by the Security Council, in the work of which 100 percent of its membership participated. Everyone signed off that they agreed to the final version, after all of this the president also appended his signature, and therefore the doctrine will not be discussed by any federal meetings or any other forums. At the same time he noted that its basic provisions may be refined on the basis of changes in political, economic and other conditions.

When asked when the military doctrine will be made public, Grachev replied that the text has been classified "Not For Publication," and that duplicating it was prohibited.

The Russian Defense Minister spoke extremely angrily about journalists who were predicting his retirement by 7 November. He recalled that on 2 November both Prime Minister Viktor Chernomyrdin and President Boris Yeltsin had made their evaluation of the activity of the Armed Forces, and consequently of the Defense Minister as well. In Grachev's words, their statements are an indication that there are not the slightest grounds beneath talk of his retirement.

The General of the Army also communicated that he did not recommend participation of officers and generals in the election campaign. But as for participation of enlisted men, NCOs and personnel serving on a contract basis, the leadership of the RF Ministry of Defense showed little concern: Let them nominate their own candidates—the General Staff does not intend to create any obstacles for them.

Vikulov on Recycling of Nuclear, Other Weapons

94UM0064A Moscow KRSNAYA ZVEZDA in Russian 4 Nov 93 p 2

[Article by Professor Sergey Vikulov: "Will Nuclear Wastes Transform Into Golden Income?"]

[Text]Public opinion has once again been aroused by the symptoms of nuclear danger. This time from nuclear wastes contaminating the human environment. The last time KRSNAYA ZVEZDA discussed the growing problem of their recycling was in the article "A Deferred Sentence" (27 October 1993).

What do the experts think about this? What sort of proposals have they submitted to the country's leadership at the eve of a planned government meeting devoted to recycling armament, including nuclear weapons? Today we turn the floor over to Professor Sergey Vikulov, doctor of economic sciences, corresponding member of the Russian Academy of Economic Sciences and Entrepreneurial Activity, and chief analyst of the Analytical Center of the Russian Federation Presidential Administration for Socioeconomic Policy.

I would very much like to pacify public opinion, to relieve tension. And this is something that must be done, though not in words but in deeds. You see, the extent of the danger faced by the world as a result of overproduction of armament in recent decades is much more serious than it appears on the backdrop of, for example, the dumping of weakly radioactive wastes into the Sea of Japan.

According to expert estimates we will have to eliminate more than 20,000 units of nuclear ammunition by the year 2000. The guaranteed storage life of much of this ammunition already expired two or more years ago. The rate at which this ammunition is being dismantled cannot satisfy us. It is such that rather than decreasing, the nuclear danger is growing. Special conditions for storage and transportation of nuclear ammunition must be created, and the needed level of explosion safety must be ensured. Russia's position is made more difficult by the fact nuclear ammunition has been carried into its territory from the groups of forces and from neighboring countries. Structures for the storage of nuclear ammunition have long required repair and refitting. Growth of the traffic accident rate, the worn condition of railroad tracks and of the rail car pool, and growing crime in the country do not make things any more optimistic.

Recently, the press has focused perhaps more than anything else on the state of affairs of atomic submarines and the difficulties of salvaging them. Much has been done in this area as well. A comprehensive program of work in this area has been drawn up. Several government decrees on salvaging ships and vessels with nuclear propulsion units and burying reactor compartments have been adopted since 1986. Implementation of ratified international agreements on ensuring nuclear and ecological safety of submarine salvage operations was

singled out as a separate item in the Russian Federation law "On the Budget." These expenses were included on the list of mandated items of the republican budget, and are subject to financing in their full volume.

Nonetheless, the situation here is extremely alarming. According to information of the Main Naval Command, over 150 atomic submarines will break down by the year 2000, and today, the number of such submarines is already approaching 100. It is difficult to ensure the survivability and unsinkability of retired atomic submarines, and presence of reactor cores aboard them creates a dangerous radiation situation and complicates ecology at the places of their storage. Transportation resources used to ship spent nuclear fuel have grown obsolete.

As we know, burial of radioactive wastes at sea is prohibited by the Russian Federation law "On Protection of the Natural Environment" adopted in 1992. This means that a special coastal burial ground and the corresponding waste processing equipment are required. Creation of such a complex was foreseen by a certain government decree, but its placement into operation is still a long way away—1996-1997. Immediate decisions are also needed in regard to hastening construction and finding acceptable conditions for dumping wastes in the sea with regard for international agreements and regulations.

There is one other important problem. Servicemen with a 2-year service commitment are now carrying out dangerous operations of a "nuclear" nature, which is totally impermissible if we wish to ensure that the work is carried out at a high professional level, and avoid additional risk. This work must be done by qualified personnel from the manufacturing plants, leaving to the military only the functions of current maintenance and combat use of armament and military equipment.

To make the picture of the disarmament process complete, let me add that hundreds of thousands of tonnes of special fluids, fuel, lubricants and chemical ammunition; up to 2,000 intercontinental ballistic missiles; over 150 submarines; over 5,000 surface ships; over 3,500 airplanes and helicopters; around 15,000 tanks and as many armored vehicles; over 40 million units of ammunition, communication resources and other military equipment in all armed services and branches of troops await a decision on their fate.

It must be said that this is not the first year that the military, industrialists, scientists and bodies of state administration have been dealing with the problem of salvaging and processing military equipment, but the work is proceeding piecemeal and in uncoordinated fashion. While attempts to put this work in order were made back within the framework of the former USSR Gosplan, it is true that their effectiveness was low. Last year proposals to sensibly organize armament were prepared by a certain scientific research institute in the

Ministry of Defense. In turn in August 1993, the Analytical Center of the Russian Presidential Administration for Socioeconomic Policy sent analytical notes on salvaging and selling freed military equipment to B. Yeltsin and V. Chernomyrdin. And finally, two versions of a federal specific-purpose program of industrial salvaging of armament and military equipment to the year 2000 were drawn up in recent months. In the near future, after this problem is examined at the government meeting, implementation of the program should begin according to plan.

What are the obstacles that have been hindering practical efforts to destroy ecologically dangerous materials and salvage the enormous reserves of weapons? The main cause can be seen, as they say, with the unaided eye—a lack of financing. It is identified as such by many specialists. But there are also other causes that are no less serious. We still do not have a body of state administration which could coordinate and organize the activity of the enterprises and sectors. Procedures have not been created for salvaging all models of weapons—not simply those of demolishing, burning and so on, but ecologically clean and economically effective procedures.

And from my point of view, the principal interference to solving the problem comes not from the lack of resources but from the primitive ways of thinking that we inherited from officials of the past. For the moment, all we are doing is fighting turf battles. The Defense Ministry has already begun selling freed military property in accordance with Decree No 1518, 30 November 1992, of the RF president, and it claims the right to act as the leader in industrial salvaging. It has organized its own administration with functions basically consistent with the particular features of the ministry. The State Committee on the Defense Industry also wants to take the responsibility of organizing the entire complex of work, and it has already conducted a meeting of committee members to discuss a draft of the federal salvage program. In addition, there are already many entrepreneurial organizations engaged in the salvage of, for example, engineer ammunition and launch complexes of Strategic Missile Forces.

This brings us to an important point. While state structures require financing from the federal budget to carry out their tasks, and we are all well aware of the budget's situation, entrepreneurs are prepared to invest their own resources. In this case all they ask is to be granted tax concessions. The fact is that the new production sector promises large dividends, inasmuch as an enormous quantity of scarce resources is embodied in the weapons. According to estimates of scientists, the amount of gold that was used to manufacture the existing armament and equipment is equivalent to the amount mined in 4-6 years. And on the whole, the potential return of resources (precious metals, titanium, alloyed steel etc.) from freed military equipment is measured in the tens of trillions of rubles.

It would appear suitable, first of all, to immediately encourage entrepreneurs to finance and carry out the federal program, and second, to create a new industrial recycling sector and a federal body to manage this sector. This approach will make it possible to do without budget subsidies, to utilize the productive capacities of enterprises undergoing conversion, and to create new jobs. The distribution of resources received from the sale of property and salvaging of weapons must also be documented legislatively.

In this case, all participating in the federal program's implementation must do their own job: The State Committee for Management of State Property must play the role of owner of federal property, which includes armament, equipment and other property, and sign contracts for scientific research, for experimental work, for creating procedures for salvaging military equipment systems and for carrying them out. The Ministry of Defense must maintain records on and prepare the list of armament and property to be sold, destroyed and salvaged, draw up proposals on state orders for carrying out such work, and coordinate work within the military department. Entrepreneurial structures must work together with enterprises of the State Committee on the Defense Industry in carrying out scientific research and design work and salvaging all types of weapons and equipment, rather than working only on economically advantageous projects producing immediate profits. The Ministry of Economics and the Ministry of Finance are obligated to provide the legislative base ensuring the economic effectiveness of the entire package of measures.

I understand that these proposals are not undebatable. But I believe that everyone recognizes the present approaches to be dead-end ones. And equally so, that everyone recognizes the need for the fastest possible elimination of the nuclear danger contained in our former military might. Delays in solving this problem could lead to catastrophic consequences not only on a Russian but also on a planetary scale.

AIR, AIR DEFENSE FORCES

Specifications of S-300V SAM

94UM0061A Moscow KRASNAYA ZVEZDA in Russian
29 Oct 93 p 2

[Article by KRASNAYA ZVEZDA Correspondent Genadiy Miranovich, under the rubric: "Arsenal": "'300' Has Reached the Bank"]

[Text] The merits of our Ground Forces surface-to-air missile systems are well known throughout the world. KRASNAYA ZVEZDA's readers have also heard about them. But, as they say, it's better to have seen one once...

The S-300V mobile surface-to-air missile guided weapons system—we saw it in action on the banks of the Emba River in Kazakhstan—destroys with power first of all. Later, having become more closely acquainted with its combat elements and specifications, you begin to be captivated by the high maneuverability, self-sufficiency, all-weather capability, jam-proofing, speed of response and the other superb qualities of this remarkable weapon that was developed by the Electromechanical Scientific Research Institute (NIEMI) headed by Veniamin Yefremov. And the first thing that you experience at the moment a missile is launched is the sensation of a gigantic force that is capable of overtaking any airborne target.

And this is natural. Accepted into the inventory in 1982, the S-300V multichannel surface-to-air missile system is the most powerful Ground Forces PVO [air defense] weapon today. This is because it was developed, first of all, to combat operational-tactical and tactical ballistic missiles and was designed for the defense of troop formations and the most important front targets, respectively. In this regard, incidentally, the S-300V exceeds the vaunted American Patriot surface-to-air missile system since it is equipped with a more powerful missile with a highly effective warhead and also with a special detection radar. And another thing, all S-300V combat units are mounted on tracked chassis with a high off-road capability and that have self-sufficient electrical supply and radio communications systems, which make it much more mobile than the Patriot. By the way, while sitting behind the control levers of the launcher, I had to recall the kind word of the developers of this very intelligent equipment who were concerned that it would be convenient and comfortable for the people who work on it during operations in any conditions.

The S-300V is equipped with two types of missiles that are standardized to the maximum possible degree and are differentiated by boosters and by maximum flight speed. The lighter missile (maximum velocity = 2,400 meters per second) is designed to destroy operational-tactical ballistic and aeroballistic missiles and aerodynamic targets, including active jammer-aircraft at ranges of up to 100 km. The other type of missile (maximum velocity = 1,700 meters per second) is designed to destroy aerodynamic targets, including highly maneuverable, ballistic, aeroballistic and cruise missiles. The missiles are located in reusable transport-launch canisters from which they are launched vertically. Up to 24 targets can be fired at simultaneously with guidance of up to two missiles from a single launcher to each target and, up to four missiles—from two launchers. The entire combat operations process has been automated to the maximum extent possible. And total automation of the combat weapon's set up and tear down processes permits it to begin combat operation no more than five minutes after a march. The time to transfer the system from standby mode to combat mode does not exceed 40 seconds.

Primary Specifications of the S-300V Surface-to-air Missile System

Target destruction range, km	
Aerodynamic targets	up to 100
Ballistic	up to 40
Target destruction altitude, m	
Minimum	
Aerodynamic	25
Ballistic	2,000
Maximum	
Aerodynamic	30,000
Ballistic	25,000
Speed of the destroyed targets, meters per second	0...3,000
Number of targets being fired upon simultaneously	up to 24
Number of missiles being guided simultaneously	up to 48
Rate of fire, seconds	1.5
Missile launch preparation time, seconds	15
Missile guidance method	Combined inertial with semiactive homing
Set up (tear down) time, minutes	5
Missile basic load (depending on launcher configuration)	98-192

The S-300V's combat systems include a detection and target designation center and the surface-to-air missile system. The detection and target designation center consists of a command post and two radars—surveillance and sector surveillance radars. The surface-to-air missile complex consists of (a system can consist of up to four complexes): A multichannel missile guidance station, six launchers for missiles of various types and just as many launcher reloading systems mated to them. The system's command post provides guidance of all combat systems, and engages and tracks the trajectories of up to 70 targets. In the process, it allocates up to 24 targets among four missile guidance stations in automatic mode (while considering the degree of danger of the target and also the combat readiness of weapons and the availability of a basic missile load). And guidance stations, besides measuring target coordinates and controlling the operation of launchers, automatically carry out surveillance of the surface horizon in which low-flying targets can appear.

This is it, our miracle system, which foreign purchasers are very much interested in right now. There has been a decision to sell it abroad. So, goodbye, "300"?

Performance, Specifications of Be-12 Flying Boat

94UM00844 Moscow KRSNAYA ZVEZDA in Russian
5 Nov 93 p 2

[Article by KRSNAYA ZVEZDA Correspondent Valentin Rudenko, under the rubric: "Arsenal": "The Be-12 Flying Boat"]

[Text] Many firms have made attempts to impart amphibious qualities to combat aircraft. But Taganrog Aircraft Scientific-Technical Complex imeni G.M. Beriyev has unquestionably managed to implement that idea to a considerable extent. An entire family of unique aircraft that have been in the Navy aircraft inventory for many years and that successfully labor in the national economy have been developed at this bureau, the only seaplane manufacturing design bureau in Russia. The Be-12 amphibious aircraft occupies a special place among them.

The talented Aircraft Designer Georgiy Mikhaylovich Beriyev, who dedicated nearly 40 years of his life to sea aviation, managed the development of this aircraft. The Be-12 carried out its first take-off from a land airfield in October 1960. We need to say that the new aircraft did not immediately conquer the air and sea elements. Refinement of the aircraft and elimination of discrepancies discovered during the course of flight tests continued for a prolonged period of time. It even underwent certain design changes in the process of this work. Specifically, the engines were raised over the wing which excluded possible damage to the propeller blades from water spray.

The Be-12 began to enter the Navy aircraft inventory in 1963. The new aircraft pleased naval aviators. It was adequately simple to maintain and reliable to operate; and was well adapted to combat submarines, patrol maritime areas, conduct bomb strikes, conduct rescue operations and accomplish other missions.

"Structurally, the Be-12 is an all-metal flying boat with a high gull wing and a twin vertical tail," said Lead Designer Anatoliy Baranov. "It can equally well conduct a take-off and landing both from the water and from land and also be lowered into the water and come up on shore thanks to the original design of the retractable landing gear and high sea-going qualities. At one time, the Be-12 was the largest amphibious aircraft in the world. It was equipped with modern flight-navigation, electronic, maritime and general equipment and also had powerful weaponry. Equipment and weaponry have been repeatedly modernized and renewed in the process of operation."

Primary Flight-Technical Specifications of the Be-12

Take-off weight, kg	35,000
Weight of empty aircraft, kg	24,500
Service ceiling, m	8,000 (it is restricted by altitude equipment)
Flight range with a 1.5 tonne payload, km	3,200
Rate of climb, mps	8
Take-off distance to an altitude of 15 meters at full weight, m	
On land	2,000
On water	2,300
Landing distance to an altitude of 15 meters with a weight of 30.5 tonnes, m	
On land	1,800
On water	2,100
Wing span, m	29.84
Aircraft length, m	30.11
Aircraft height (on the ground), m	9.1

The Be-12PS, a search and rescue variant of the amphibious aircraft that has an inflatable motor boat, a special hoist that is required for rescue and medical equipment on board, was developed based on the Be-12 at the end of the 1960's. It is capable of bringing a team of rescuers to an accident area and also of evacuating accident victims.

Two A.G. Ivchenko-designed AI-20D turboprop engines have been installed on the Be-12. The aircraft has an AI-8 auxiliary power unit for autonomous engine start and to ensure survivability of the aircraft during prolonged basing while afloat.

The amphibious aircraft has a four-man crew: Crew commander, co-pilot, navigator and radio operator.

The team of specialists and designers was awarded a State Prize for the development of the Be-12. The aircraft turned out to be successful. At various times, 42 world records have been set in it. Six of them are due to the series-production plant's test-pilots—a crew consisting of Commander Mikhail Mikhaylov, Co-Pilot Yuriy Kupriyanov and Navigator Lev Kuznetsov.

The Be-12 has already been in the naval service for 30 years. But it looks like the veteran aircraft is not thinking about relaxing and it is mastering increasingly new, now already civilian, professions.

"We think that this aircraft has not yet exhausted its capabilities," said Deputy General Designer Viktor Ponomarev. "Work to reequip the Be-12 to perform national economic tasks—extinguish forest fires, reconnaissance of fish reserves, monitoring the economic zone of a water area, replacing the crews of fishing vessels, delivering various cargoes, etc.—is being conducted within the framework of conversion. For example, Be-12P amphibious fire-fighting aircraft recommended themselves quite well while extinguishing forest fires in Irkutsk Oblast, in Chukotka, and in other areas.

Unfortunately, so far there is nothing to fill the breach that is being formed in naval aviation's combat formation with the departure of the Be-12. More accurately, that aircraft exists—the A-40 "Albatros". (KRASNAYA ZVEZDA discussed it in the October 8, 1993 issue) but series production of this aircraft is being delayed and we do not know when it will begin to enter the inventory.

NAVAL FORCES

Strategy of Ship Technical Maintenance

94UM0046A Moscow MORSKOY SBORNIK
in Russian No 7, Jul 93 pp 61-64

[Article by Deputy Chief of the Main Shipbuilding and Weapons Directorate of the Navy Vice Admiral M. Barskov and S. Maksimov: "Strategy of Ship Technical Maintenance"]

[Text] The aim of TO [technical maintenance] for Navy ships is to provide for the good working order and continuous technical readiness of weaponry and shipboard components for use; that is, to maintain them in combat ready condition. Means and methods for achieving this are determined by the technical maintenance strategy elected. Choosing the correct strategy is exceptionally important, especially in today's conditions, which are characterized by limited financial and material resources, including those allocated for technical maintenance and repairs. These conditions are also characterized by a short fall in ship overhaul capacity, weak infrastructure development at bases, and a drop in manning of naval ships and maintenance units. At the same time, the situation is further aggravated by the reduction in the shipbuilding program, which leads to an increase in the number of ships in the Navy with longer service lives.

As a result of the above, we are encountered with an increase in the number of ships that have exceeded the prescribed period between overhauls, and it has become necessary to conduct a significantly greater volume of maintenance between overhauls by ships' crews. There is, however, a significant manpower shortage today on ships and in maintenance units in the seaman, petty officer, warrant officer, and officer ranks alike. This does not permit conducting technical maintenance and ship power plant repair within the full scope of operative documents. All this has necessitated the development and implementation of a new, economically efficient strategy for technical maintenance and ship power plant repair. The current level of development of shipboard power engineering and diagnostic equipment allows us, at the present stage, to employ (separately or in various combinations) the following principally distinct strategies for ship power plant technical maintenance: 1) according to calendar schedule and accrued operating time; 2) according to failure; and 3) according to actual condition.

For the most part, today in the Navy the first of the above mentioned strategies is being employed, while for only certain mechanisms, components, and assemblies—the second strategy. Analysis of naval ship maintenance practice shows that the strategy for technical maintenance and ship power plant repair according to calendar schedule and accrued operating time leads to significant overexpenditure of labor and material resources (ZIP [spare parts, tools, and accessories], GSM [fuels and lubricants (POL)], expendable materials, etc.), while accomplishing the prescribed volume of work ahead of time with such a strategy for the majority of complex components does not reduce the probability of failure. For example, for some equipment it even increases the flow of post-repair failures for complicated shipboard automation. However, it is also impermissible to reduce the number of preventive inspections of shipboard technical components without justification, since it would inevitably lead to an increase in failures and a reduction in equipment reliability.

In our view, one direction for increasing the effectiveness of ship power plant maintenance is to make a transition to servicing technical components according to their actual condition. But a shift to such a strategy for technical maintenance and ship power plant repair is possible only with the implementation of a set of rules for diagnosing and forecasting an item's technical status and remaining service life. In other words, such a strategy is based on the employment of the theory, methods, and means of technical diagnostics, with the following tasks: Evaluating the working capacity of technical components, searching for defects in components and assemblies, and forecasting their technical status at a given moment in time. In their turn, diagnostic parameters are used for determining the working capacity of technical components, for searching for defects, and for the capability to forecast equipment status. They are selected from a set of actual parameters, accessible for measurement, possessing a specific information content, and suitable for further analysis.

Utilizing such a strategy, power-generating equipment is operated right up to pre-failure condition. This condition is detected for specific items by using the principal of setting warning tolerances for certain diagnostic parameters. By warning tolerance, we mean a set of values of actual parameters, fixed between their maximum and tolerable levels.

Objects are diagnosed under specific conditions, which take into account the composition, the frequency of inspections, and the warning tolerances for the diagnostic parameters. The diagnostic process includes the establishment of numerical relationships between warning tolerance values for an item's diagnostic parameters and the frequency of testing its technical condition.

Basic principles for the strategy for technical maintenance include:

- increasing the efficiency of naval ship operation;
- adhering to a schedule for monitoring technical conditions;
- timely warning of component failure and failure of a component's most crucial elements and assemblies.

Choosing a method for evaluating technical condition, searching for defects, and forecasting remaining service life is governed by a component's functional purpose, its suitability for monitoring, and also by its degree of redundancy.

Shipboard power generating equipment is divided according to functional purpose into primary and auxiliary. Primary power generating equipment are complex objects with a high degree of functional importance, with an inadequate level of redundancy. Due to the potential consequences in case of an accident, the following examples of such equipment may not be permitted to operate up to failure: Elements of the primary power plant; general shipboard mechanisms and systems, which provide safety of

navigation and ship survivability; and basic turbine and electronic mechanisms, which provide operation of the main power plant.

For primary power generating equipment, it is sound practice to perform technical maintenance and repair according to actual condition of an object as a whole, or of its most important elements and assemblies. Technical status monitoring can be carried out continuously or periodically.

Auxiliary power equipment consists of technical components, the failure of which will not lead to an emergency condition or breakdown of the primary ship power plant equipment, and will not influence safety of navigation or ship survivability. Auxiliary equipment may constitute separate non-standard mechanisms, or a combination of similar objects. For non-standard auxiliary equipment, selecting the manner of technical maintenance and repair is governed by its suitability for monitoring and degree of redundancy.

With a large quantity of similar auxiliary equipment, it is economically expedient to perform technical maintenance based on monitoring the reliability level of the entire collection, with the aid of statistical methods. In this case, the criteria for the technical condition of the collection of similar items is the level of reliability, expressed by the applicable indicator, for example by mission success rate, or by the number of failures of an item of a given type, per 2000 hours of operation.

For providing monitoring information on the level of reliability, we need to develop nomenclature and forms for presenting baseline information: Number of items on a ship; nature, cause, and consequence of failure; number of failures and accrued operating time of the set of observed items over the monitored time interval; and also the cost of replacing an item and the cost of preventive maintenance and repair according to calendar term and accrued operating time.

In a number of cases, instead of information on the reliability of the entire collection of observed items, it is economically expedient to utilize information on the technical condition of isolated components of the aggregate, (items having the most accrued operating time or operating in extreme conditions).

Depending on the level of monitoring compatibility of representative items, we employ either individual monitoring of their technical condition, or monitoring according to calendar schedule or accrued operating time, or the representative items are operated to failure.

By monitoring compatibility we mean the quality of an object, which determines its suitability for the conduct of parameter monitoring for the purpose of technical diagnosis.

Analysis of the structure and composition of ship power generating equipment permits us to theoretically combine technical components into groups with a high or low

level of monitoring compatibility, depending on the degree of adequacy for performing technical diagnosis tasks.

Analysis of the level of monitoring compatibility and functional importance of modern ship power generating equipment shows that all shipboard equipment can be divided into four classes according to the following characteristics:

- Class 1 - primary equipment with a high level of monitoring compatibility.
- Class 2 - auxiliary equipment with a high level of monitoring compatibility.
- Class 3 - primary equipment with a low level of monitoring compatibility.
- Class 4 - auxiliary equipment with a low level of monitoring compatibility.

Thus, to achieve a transition to technical maintenance according to actual condition, it is necessary to ensure the required level of monitoring compatibility of the primary equipment's components and assemblies. However, this demand can not always be met with the current level of development of technical diagnostic means.

Analysis of the level of monitoring compatibility and of the functional purpose of shipboard technical components shows that the following equipment belong to class 1: Main engines of ships with GTU [gas turbine installations] and DEU [diesel power units]; main turbogear assemblies; general shipboard mechanisms which provide safety of navigation, ship survivability, and personnel habitability (diesel, turbine, and gas turbine generators; compressors; fire pumps; anchor, and anchor and warping capstans, refrigeration units); high power turbine machinery (TNA [turbo-pump assemblies], PKBT, TMN, TNN, TTsN [expansions not given], etc.).

Cooling system pumps, freshwater and seawater pumps, lubricating oil coolers, oil and fuel preheaters, separators, filters, electric blowers for general shipboard and special ventilation systems, and certain other types of pumps, heat exchange apparatus and equipment could all belong to class 2. Class 3 includes shipboard main and auxiliary steam boilers, main steam-jet ejectors, and certain other mechanisms with a great deal of functional importance and low monitoring compatibility.

Making up class 4 are mechanisms not in classes 1-3, insufficiently suitable for monitoring and of low functional importance from the standpoint of the power plant as a whole: Steam-jet pumps, water removal and drainage ejectors, components of the steam heat system and of the service steam supply system, etc.

Technical maintenance of class 4 power generating equipment is performed during periods of regular scheduled preventive maintenance inspections and during scheduled overhaul upon failure. The determining factor in selecting this type of technical maintenance and repair is the high level of redundancy in this class of components.

A future direction in the development of ship power engineering is a shift to a 3-class system for equipment, when there will be no mechanisms or systems with high functional importance and a low level of monitoring suitability of their elements and assemblies.

Thus, the functional purpose of power generating equipment and the level of monitoring compatibility and redundancy are significant in determining the scope of a technical maintenance strategy.

Analysis of the substance of those strategies reviewed for technical maintenance and repair shows that with the current level of power engineering development and technical diagnostic equipment, it is economically expedient to employ a 4-level technical maintenance system: With monitoring according to condition; with monitoring according to level of reliability; with combined monitoring (according to condition or level of reliability); and without monitoring technical condition, according to a component's failure.

A multi-level system for technical maintenance and ship power plant repair presupposes providing a high degree of monitoring compatibility of primary power generating equipment; creating effective means for diagnostics and uninterrupted monitoring, and working out a method for their systematic implementation: developing an experimental and an industrial-engineering base for research, operational, and repair organizations, and also naval educational institutions.

In order to implement the multi-level system for technical maintenance and repair we must develop a framework, construction policy, and plans for the employment of naval technical diagnostics services, since the system currently existing in the Navy for information collection and processing does not provide the necessary completeness, usefulness, or accuracy of information on the technical condition and reliability of shipboard components.

Fleet technical diagnostics services must coordinate the activities of base diagnostic laboratories. To this end, it is necessary to provide for a fleet diagnostics center, which provides systematic management of laboratories; an element that coordinates with the fleet metrology service and measuring equipment laboratories for metrology support of diagnostics components; and also elements for solving legal matters and matters of laboratories' logistic support.

Base diagnostics laboratories, in their turn, will accomplish monitoring tasks and evaluate technical condition and reliability of shipboard equipment, and must have within their composition groups for reliability monitoring, parameter monitoring, and physical method monitoring and diagnostics.

The reliability monitoring group shall perform structural reliability analysis; collect, process, and analyze statistical information on component reliability; classify statistical information on the reliability of similar equipment; conduct record keeping and analysis on component operating conditions over an observed period of time; and conduct empirical evaluation of the effectiveness of the adoption of technical diagnostic systems and equipment according to reliability indicators.

The parameter monitoring group shall conduct test and evaluation of the technical condition of equipment by parametric methods, mainly on standard instruments with the aid of a data collector.

The physical methods group performs evaluation of the technical condition of equipment on the basis of physical-chemical methods (vibrating diagnostics, acoustic emissions, x-ray and spectroscopy, etc.) and analyzes the quality of lubricants, water, electrolyte, and fuel.

The diagnostic group schedules ships and equipment for diagnostic testing; collects, processes, and analyzes diagnostic information and on this basis develops recommendations for technical maintenance and ship power plant repair. In this way, a transition to a multi-level system for technical maintenance and repair allows us to lower maintenance costs through optimizing the management of operational maintenance, mishap prevention, lengthening periods between repairs, and conducting repairs not according to standing rules or accrued operating time, according to the actual technical condition of shipboard equipment.

In our opinion, such an approach to conducting periodic technical maintenance and repair work can have a significant economic effect. It can also improve conditions for component maintenance, which in its turn shall raise our ships' technical readiness.

Major Oil Leak from Ships in Sevastopol Harbor

94UM0049A Moscow KRSNAYA ZVEZDA in Russian
26 Oct 93 p 2

[Interview with Captain 2nd Rank Nikolay Kocherga, chief, Environmental Protection Inspectorate, Black Sea Fleet, by KRSNAYA ZVEZDA BSF correspondent Vladimir Pasyakin under the "Extraordinary Occurrences" rubric: "Defective Tanks and Poor Ecology"; date and place not given; first four paragraphs are KRSNAYA ZVEZDA introduction]

[Text] The phrase "ecological disaster" is the only way to describe what recently occurred in the Sevastopol inlet, which was the recipient of dumping of about 60 tonnes of petroleum products that covered approximately 230,000 square meters of the water surface.

An oil spill in the open ocean by itself means major trouble. But what can be said about the seacoast of the largest city in the Crimea, one that is home to more than 400,000 people?

Twenty-four hours after the incident, the Black Sea State Inspectorate initiated a search for the perpetrators of the contamination. The location and nature of the spill provided reason to assume that the culprits were warships. In the opinion of Lidiya Barabash, Black Sea State Inspectorate Deputy Chief, the damage is estimated to be on the order of 18.9 million karbovantsy.

To obtain an explanation of the occurrence, Captain 2nd Rank Vladimir Pasyakin, our permanent Black Sea Fleet correspondent, requested Captain 2nd Rank Nikolay Kocherga, Black Sea Fleet chief of Environmental Protection Inspectorate, to grant an interview, the text of which follows.

"We detected a sea of residual fuel oil as early as 7 October," said Nikolay Danilovich. "We have not yet been able to put our finger on the particular perpetrator. It is not possible to rule out the possibility that the dumping was accomplished by a Black Sea Fleet ship, but I could not state that with absolute certainty. Thirteen organizations are 'tied to' the Sevastopol bay. And virtually none of them is entirely blameless. In one month in the beginning of the year, a GRES [state area power plant] on two occasions dumped about 20 tonnes of residual fuel oil. Last year, torrential rainwater flowing from a storage facility of the production association Sevastopol Shipyard imeni Sergo Ordzhonikidze carried more than 10 tonnes of petroleum products into the bay. The list can be extended."

[Pasyakin] Nonetheless, the bay must be saved. What specifically is being done to clean up the spill?

[Kocherga] The Fleet did not stand idly by, of course. The Sevastopol Support Section of the ChF [Black Sea Fleet] assigned four spill containment vessels. In the first 3 days of work, they collected 140 tonnes of bilge water, which a tanker hauled to the Fleet oil cleansing facility. Incidentally, an emergency oil spill action headquarters, although slow in coming, was then created. It was placed under the command of Captain 1st Rank Yuriy Bakuradze. The ensuing measures did something to diminish the severity of the disaster.

Subsequently, on 18 October Lidiya Barabash stated that a culprit had been found. It was the crew of the ASW cruiser (PKR [protivolodochnyy kreyser]) "Moskva," which on 7 October had dumped one tonne of residual fuel oil into the bay's waters, thus causing damage in the amount of 380,000 karbovantsy.

Cleanup of Sevastopol bay, in which port departments are also participating, is continuing. But where is the guarantee that the same will not occur again? Culprits other than the crew of the PKR "Moskva" are yet to be found.

Although I have no intention of justifying the actions of the Fleet's sailors, I must say something about their problems and troubles that were definitely instrumental in the dumping of the petroleum products.

Inspection revealed that the technical condition of the tanks, pipes, and major fuel lines of the PKR "Moskva" leave much to be desired, to put it mildly. In-dock maintenance and repair schedules have been ignored, the tanks are leaking, the pipelines are "on their last legs," and many machines are in need of repair or replacement. The age of the "Moskva" render servicing extremely difficult. (The younger PKR "Leningrad" reached its final resting place many months ago in the ships' graveyard). This is especially true if one considers the change from a 3-year to 2-year duty tour in the Fleet, the chronic shortage of crew members, and the poor professional training level of the sailors.

The situation of other ships is not better, with the sole exception that their technical condition has not deteriorated to the level of the PKR "Moskva." The repairs long needed by the "Moskva" will now cost 1.5 billion karbovantsy. Whence this kind of money, with Ukraine blocking financing of the Fleet? Whence money for ship repair—a fundamental and the most substantial item of the Fleet's costs? It is common knowledge that the status, ownership, and future of the Black Sea Fleet have yet to be decided by the politicians. And if the political and economic problems are not solved, it will not be possible to solve ecological problems.

REAR SERVICES, SUPPORT ISSUES

Three Views on Defense Acquisitions in Market System

"Oboronkontrakt" General Director Churikov

94UM0054A Moscow TYL VOORUZHENNYKH
SIL VOYENNO EKONOMICHESKIY ZHURNAL
in Russian No 6, Jun 1993 pp 3-5

[Interview with Nikolay Churikov by Lieutenant-Colonel V. Pirozhok, place and date not given: "Defense Contract: First Experience"]

[Text] In May 1992, the law "On Shipments of Products and Goods for State Needs" was adopted and ratified by the Supreme Soviet of the Russian Federation. For some reason, the press scarcely reacted to its appearance. Whether because the humdrum name "didn't click" or because of the inertia of the times, when laws were a dime a dozen but life ran its own course. Meanwhile, for the Army as a state structure, and for the army economy, the Law was a turning point, a new point of reference in the history of military development.

The articles of the law define the transition of the entire system of logistical and technical support of the Armed Forces to a contract basis. The Army is entering the era of market economy. Not just in slogans, not chaotically, but

on a legal basis, following the letter of the law. Only time will tell what this path will be like. However, while the theorists fight their battles, marshalling abstract prognoses, the practitioners have boldly rushed into action.

The first to offer its services to the Ministry of Defense in providing material and technical resources was the State Contract Corporation "Oboronkontrakt," which enjoys the right to place orders for 1993 shipments of industrial and technical products with enterprises (on the territory of the Russian Federation and the states of the CIS (Commonwealth of Independent States), and also to make contracts for the purchase of these products for state buyers and organizations. Our correspondent Lt. Col. V. Pirozhok talks with the General Director of "Oboronkontrakt" V. I. Churikov.

[Pirozhok] Nikolay Ivanovich, we should probably first get acquainted. What exactly is "Oboronkontrakt"?

[Churikov] I guess our talk should start with the basics, or more precisely the axioms, so I will remind you that the basic task of the state system of logistical and technical support is to maintain production by supplying vital resources for general state programs and needs. So it has been, is, and will be. Here the new procedures and organization of logistical and technical support give scope to initiative and entrepreneurial activity, promoting the transition to market relations. Sooner or later the resource distribution system for state needs, through its natural course of development, had to collapse and summon in its place a system of state purchases based on market relations, contracts (agreements). This is a demand of the times, common sense if you will. The contract system operates on the principle of a contract, namely: The state does not purchase goods for its needs, itself, but hires the contractor manufacturer or wholesale organization for these purposes.

The "Oboronkontrakt" Company was formed in November, 1991 to organize purchases of material and technical resources for the needs of defense and state security of the Russian Federation, and also for the conversion of enterprises of the defense industry, in coordination with the Defense Ministry and other interested ministries and departments of the defense complex, on the basis of subunits of the former Ministry of Commerce and the material resources of the Russian Federation which were involved in meeting defense needs. It acquired organizational shape in March, 1992.

[Pirozhok] Does "Oboronkontrakt" have experience in this kind of work?

[Churikov] For today perhaps no one has sufficient experience under the conditions of the just-beginning market relations. That is why the search is now on for optimal solutions.

After the issuance of the government decree of the Russian Federation approving the state defense order for 1992, in the second and third quarters the company drew up contracts with enterprises-suppliers for the purchase

of goods. Shipment of products for the Ministry of Defense of the Russian Federation from the resources purchased by the company was also arranged. I should mention this work was done under conditions of daily disruption of economic ties caused by the collapse of the former USSR and the reorientation of interests of goods-suppliers. Thus, we are gradually gaining experience.

The company began placing orders for purchase and shipment of products for 1993 starting in March of 1992. The mix and the volume of the purchased products was considered and coordinated with consumers. Based on the work which had been done, proposals were distributed to the enterprises suppliers for integrated purchase and shipment of resources. Contracts and agreements were sent to enterprises of the Russian Federation. Besides this, analogous proposals for products not produced by enterprises of the Russian Federation were sent to enterprises of the states of the CIS, the Baltics, Azerbaijan, and Georgia.

At the same time, we processed contracts with consumers and began issuing them notifications (registrations) regarding the volume of product purchases for each supplier, as the basis for signing agreements between the consumer and the supplier. I should note that the "Oboronkontrakt" Company sends notifications only to those enterprises with whom contracts or agreements for the wholesale purchase of products have already been reached.

As you can see, the foundation has been laid. Now we must improve the system of purchase contracting as we acquire experience.

[Pirzhok] Has a mechanism been worked out for the contract system? How will it be implemented in practice? What difficulties and problems do you see here, and are you prepared to resolve them?

[Churikov] Yes, the concept of the contract system has been developed. In accordance with the Law of the Russian Federation "On Shipments of Products and Goods for State Needs," by the Order of the President of the Russian Federation of August 7, 1992, and the Decree of the Government of the Russian Federation of August 27, 1992, beginning in 1993 all forms of state provision of material-technical resources, and their centralized distribution, will be abolished. Logistical and technical support of the activity of enterprises and organizations must be implemented by them independently, on the basis of agreements.

Orders for the purchase and shipment of products and goods for state needs is one form of satisfying the state requirements. The volumes of state purchases of products for general industrial use and for consumer goods are determined by the effective demand of the suppliers (consumers) financed by the assets of the republic budget of the Russian Federation, or of individual industries and areas of activity through non-budgetary sources, and enjoying state support by decision of the government.

The contract system differs from centralized distribution of production resources in its voluntary nature, and in the advantage of shipments in accordance with state orders. The advantage for the product suppliers comes reduced taxes, preferential credits, and perhaps most importantly, guarantees of purchase and payment for products at agreed prices. Competitions and auctions conducted by the organs of the contract system should create competition. Direct manufacturers and middleman organizations, both state and private, can participate in them. He who agrees to the lowest price level or the lowest commissions gains the right to make shipments for state needs.

Such is the general outline of the contract system contained in the government program.

In order to create a mechanism of state purchases of goods for state needs, and state support of individual industries and areas of activity, and also to create conditions to implement the Law of the Russian Federation "On Shipments of Products and Goods for State Needs," the Federal Contract Corporation, "Roskontrakt," was approved by Order of the President of the Russian Federation.

The contract system includes the federal contract corporation "Roskontrakt" as a non-commercial organization uniting commercial-contract companies and coordinating their activity in the sphere of state purchases, and organizations recruited as contractors. Republic wholesale-middleman companies and regional enterprises of wholesale trade which have been classed as federal property. Independent contract organizations may also be recruited for the work. Privatized and state commercial wholesale organizations not under the "Roskontrakt" Corporation. Three variants of contract relations and implementation of shipments between the contract organization, the producer and the consumer, are possible:

1. A contract organization signs contracts with goods-producers, the consumers sign contracts with the goods-producers on the basis of and within the framework of these contracts.
2. The contracting organization signs contracts with goods-producers and wholesale commercial organizations in whose region of activity the consumers are located. In this case the wholesale commercial organization signs contracts for shipments with the goods-producers on the one hand, with the consumers and on the other.
3. The contracting organization signs contracts with the consumers for shipment, acquires goods from goods-producers or exchanges or commercial supply organizations, and sells them to the consumers, if necessary leasing from other wholesale enterprises.

The "Oboronkontrakt" Company at present uses the first and second schemes.

The mechanism of implementation of contract work must include a system of benefits granted first of all to the goods-producers and ensuring the attractiveness of execution of the orders and sale of the goods for state needs. The benefits granted to goods-suppliers may include: Guarantees of the acquisition of and payment for goods; issuance of licenses for export or import of goods in the CIS states; reduction in tax rates on profits and on value added, and others. However, as yet the system of benefits has not been worked out on a legal basis, and this prevents us from using it. We hope that this omission will be corrected. And then the contract system will acquire a powerful stimulus for its development.

[Pirozhok] Without a doubt the organization of logistical and technical support of defense and security has its specific features. These include a knowledge of the particulars of the military market, the ability to work with army specialists, and . . . Are your colleagues associated with the Armed Forces in terms of qualifications and work experience?

[Churikov] The corresponding subunits were part of the former USSR Gosstab [State Committee for Material and Technical Supply] and Ministry of Material Resources of the USSR from the moment of their inception (the second directorate, department of defense sectors of industry) and implemented the supplying of resources to the ministries and departments of the Union involved in the production of military goods, and also to the Ministry of Defense of the USSR, the Ministry of Internal Affairs of the USSR, and the Committee for State Security of the USSR. I have already reminded you that the "Oboronkontrakt" Company was formed on the basis of that subunit. Thus as you see, our cooperation with the organs of material and technical supply of the Ministry of Defense goes way back. Most of our colleagues have years of work with the Armed Forces and Military buyers to their credit.

Of course, we were all working in the days of command methods of management of the economy and centralization of resource distribution. But working under conditions of a free market economy requires different methods and means. Naturally neither we nor our colleagues in the Ministry of Defense involved in material and technical support have experience under such conditions. I believe that we must all study. Particularly, [we must learn] to synthesize our historical experience in supplying the Army, both in the pre-revolutionary period and in the post-revolutionary period, and to take what is most rational and good.

[Pirozhok] Is the first contract mutually advantageous? What does it give the Defense Ministry? Can the military get along without a middleman and go directly to the suppliers?

The Law of the Russian Federation "On Shipments of Products and Goods for State Need" says that orders for the purchase and shipment of products are to be processed

and placed with enterprises/suppliers directly by state buyers, by signing state contracts. It was decided that state buyers can transfer their functions to the corresponding enterprises and organization on a contract basis, to process and place orders for purchase and shipment of products for state needs.

The Defense Ministry of the Russian Federation is the state buyer in the federal targeted program "Maintenance of the Necessary Level of Defense Capability and State Security." Therefore, the Defense Ministry and its purchasing directorates independently determine the form of placement of orders for the purchase and shipment of products.

Each economic system has its own internal logic. For example, one cannot imagine a command economy without centralized distribution of resources. Under the conditions of a free market economy, the distribution of resources will depend on the correlation of demand and supply. The state can intervene in the processes of self-regulation only indirectly, by stimulating or limiting the production and consumption of a particular product.

State purchases on quite large scales are today required by consumers demanding higher guarantees of supply from the state, and this also applies to the Defense Ministry.

As I already mentioned, the contract system differs from centralized distribution in its voluntary nature and the advantage of shipments placed on a competitive basis. For the goods-producers, the principle of advantage or disadvantage of product and consumer remains the main one. Deals with organizations of the Defense Ministry are considered disadvantageous. If each such consumer independently looks for partners and placement of orders, the price of the products will inevitably go up; and for organizations with budget-based financing, this will cost them both money and time (the search for an acceptable partner can drag out). The federal contract system, including the "Oboronkontrakt" Company is intended to regulate the sphere of turnover, i.e. to create the optimal conditions for the meeting of producers and consumers of products.

As we see it, this is advantageous to the Ministry of Defense both from the financial and from the organizational aspect, as is confirmed by our work experience: All the purchasing directorates have signed contracts with the company.

From the editors: We are grateful to Nikolay Ivanovich Churikov for the interview, and we hope that our contracts will be strengthened and new meetings on the pages of the journal are still to come. The editors believe it their professional duty to track the development of the topic "Army and Contract" and we intended to shed light on the process of transition from the state system of orders to the contract system, and of course to provide an opportunity for different points of view to be aired on this problem. Continuing the conversation with the general director of

"Oboronkontrakt," we offer the opinions of two rear service specialists to the readers.

Colonel (Res) Ye. Dema

94UM0054B Moscow TYL VOORUZHENNYKH
SIL VOYENNO EKONOMICHESKIY ZHURNAL
in Russian No 6, Jun 1993 pp 6-7

[Article by Colonel (Res) Ye. Dema: "At an Impasse of Problems"]

[Text] One can distinguish several directions in the relations between the Defense Ministry and state and commercial structures. First and most important is the supplying of the Armed Forces with all types of weapons, combat equipment and other materiel. Second is the sale of surplus and unnecessary military property. Third, capital construction and repair by the contract method. Fourth, supply of various resources for construction and repair by the local organization. I believe that it is time for us to define our position with respect to entrepreneurial (commercial) activity, without which even now we cannot resolve the problems of maintaining the Army, or supplying it. Levels and structures must be established wherein the given tasks will be resolved, and their corresponding functions and legal documents must be developed. And of course, constant monitoring is required.

In a situation of ignorance and shaky foundations such as exists today, the transfer of contract for shipment of industrial and technical products to the state contract company "Oboronkontrakt" fills me with alarm. Neither the interview of the respected company director, nor the content of the contract itself, clarifies the true state of affairs.

Without a doubt the search for optimal ways to supply the Armed Forces in a market economy is a necessary and timely task. But I believe that we need not begin as the former ministers, chiefs of main administrations and other administrators have done.

For them it is all simple and fast. Starting on October 1, the presidential order abolishes the Ministry of Trade and Material Resources. The joint-stock company "Roskontrakt" is formed. The initiator of this reincarnation was S. Anisimov, who exchanged his ministry office for a presidential one, as the head of the joint-stock company. This structure was the ancestor of "Oboronkontrakt."

I will cite the words of the director of "Oboronkontrakt": "We must all study. Particularly, [we must learn] to synthesize our historical experience in supplying the Army, both in the pre-revolutionary period and in the post-revolutionary period." I would not say that we lack such experience. The experience of [supply] shipments in the Russian Army was long ago synthesized, and the

appropriate conclusions were drawn from it. Many fundamental works have been written. There are also practical recommendations for its use under present-day conditions.

Let me cite a few examples. First of all, remember that entrepreneurs (merchants) have always striven to have a monopoly right to supply the Army with even one item of production, but not such a broad selection of them as was not done just for "Oboronkontrakt." Back then, the struggle for such a priority was fought to the death.

Here are some facts from the past: "The case of the merchant S. T. Ovsyannikov." A major, noisy criminal case in Russia. The renowned attorney A. F. Koni participated in the trial. In the words of Ovsyannikov himself, he had spent years reaching the richest level of military supply. He acquired the monopoly right to supply rye flour to the troops of the Guards Corps. He reached his goal by bribing officials of the quartermaster department. But his rival V. A. Kokarev, who had a steam mill, encroached on Ovsyannikov's contract in 1874. The latter then arranged to have the mill burned down.

This happened in early 1875. The well-known bread merchant, millionaire Ovsyannikov, one of the most important Russian merchants, was condemned by the District Court of St. Petersburg and exiled to Siberia for life. This was the first but by no means the last such case.

Now the Russian Federation is at the very start of its path toward the market. The whole battle for monopoly of military supplies is still ahead. The extensive nature of the functions which were conveyed to one company are therefore surprising, especially a company which does not have sufficient experience. And one other thing. The company is not considering creation of a supply system: it has just assumed middleman functions. Isn't it possible that the contracts will be signed, but then the necessary resources will begin to arrive intermittently, or may not come as required at all? Who in that case will be responsible? Based on the contract's contents, no one. The suppliers turn over the goods to the transportation organs, and their contractual obligation ends there.

Historical experience also points to the possibility of such a course of events. In 1877, the Russian War Ministry conveyed the right to supply food to the active army to the private partnership of "Greger, Gervits, and Kogan." As a result, during the Russian-Turkish War of 1877-1878, our Army was barely supplied with food. Thousands of soldiers froze to death from cold and hunger in the snows of the Shipkin Pass. More than half of the prepared food did not reach the troops. The directors of the company fled to Rumania, and attempts of the Russian officials to obtain even some compensation from Greger, from Gervits, or from Kogan were not crowned with success.

Analyzing the contract which was palmed off by the above partnership on the Russian military department, one can understand what the adept dealers were playing

on. Primarily on the ineptness of the officials who "let pass" such a contract. If you compare that contract with the one now signed by the "Oboronkontrakt" company, you are struck by their similarity. Don't berate me for such a comparison, the historical analogy arises all on its own. Alas, many military leaders are skeptical and frivolous when it comes to an important process of commercial activity like the conduct of negotiations and the signing of agreements. They think that it is not particularly hard work, when you have a model or standard form, to bring the process to a logical conclusion. The experience of history and our present reality refutes such confidence.

I personally am not certain that the deal with "Oboronkontrakt" will bring benefit to the Defense Ministry. Before speaking of such advantage, we should consider the following words of the general director of the company: "For the goods-producers, the principle of advantage or disadvantage of products and consumer remains the main one. Deals with organizations of the Defense Ministry are considered disadvantageous."

In thinking about the assurances of "advantage" of the Defense Ministry and the "disadvantage" of the goods-producers, one wonders: Why would the goods-producers accept such disadvantageous conditions? There is still no answer.

Even the little initial experience of commercial activity of our days testifies that the producer determines the starting price based on an understanding with the middleman. The middleman receives his commissions from the sum for which the deal is signed. Consequently, the price of the goods increases. It increases further because of the payment which is taken out for the wholesale merchants, the owners of warehouse facilities and others. Ultimately the state buyer (the Defense Ministry) will pay everyone.

As I see it, in this case it is inappropriate to speak of advantage or disadvantage. Back in 1860, one of the founders of military economics V. M. Anichkov wrote: "Profit is the spirit of trade." Without it no one would work in commerce, for bankruptcy would be inevitable. The purchaser always pays under market conditions. Advantage or disadvantage, i.e. choice, he can have only when there is a competition of the producers and middlemen, who in specific cases are forced to reduce the prices for products.

Unfortunately, it must be acknowledged that the "Oboronkontrakt" company in no way differs from the monopoly structures of the old economic complex, if it has been granted the unrestricted right to be the middleman for shipments of products for the Defense Ministry. It alone, there are no competitors! And this right was kindly granted to the company by a giant such as the former Ministry of Trade and Material Resources, and the company itself is nothing other than the corresponding structure of the former USSR Gosnab and the Ministry of Material Resources of the USSR.

Essentially the formation of a new centralized, monopoly system of supply of the Armed Forces is being formed: "Roskontrakt," "Oboronkontrakt," the Defense Ministry and so forth. Thus the Defense Ministry will become the general buyer, "Roskontrakt," "Oboronkontrakt" and other similar organizations the middlemen. But who will be involved in the military economic complex as a whole, we still do not know. Nor has the system of supplying the Armed Forces been determined by the Armed Forces themselves.

A competitive selection of suppliers might fundamentally change the situation and lead to a real market.

Let us look at history again. Four commercial offers were submitted to build a machinegun factory in Russia in 1916: One from the well-known Kiev millionaire M. I. Tereshchenko; another from the no less well-known owner of an exemplary machine-building factory, the engineer I. A. Semenov; the third from a dubious joint-stock company "Pulemet" (it proposed organizing production with American technical assets); the fourth from a Danish weapons syndicate. As a result of profound, professional study of the proposals, the Russian entrepreneurs won.

History itself suggests to us that the principle of a competitive approach to selection of entrepreneurs for the military department is the only right one. In addition, competition is a means of preventing the stormy growth of monopolies which dictate a monopolistic nature of production relations. The transition from vulgar socialism to monopolistic capitalism is a new impasse of unresolved problems.

A new business is always born in difficulty and contradiction. It is not for the sake of criticism that I called the contract with "Oboronkontrakt" into some doubt, but for the sake of an optimal solution of those problems which must be solved if the army is to be reformed and enter the market economy. The more complex the conditions, the more closely we must consider any steps toward the future.

Colonel Yu. Chirkov

94UM0054C Moscow TYL VOORUZHENNYKH
SIL VOYENNO EKONOMICHESKIY ZHURNAL
in Russian No 6, Jun 1993 pp 8-9

[Article by Colonel Yu. Chirkov: "So as Not To Disappear One by One"]

[Text] The turning of the editors to a topical subject such as the contract system for shipments of material resources is yet another proof that we all are striving to understand the main problems of economic support of the Russian Army. And this, one can only welcome.

The interview with N. I. Churikov, the General Director of the State Contract Company "Oboronkontrakt" hit the nail right on the head. But not only that, it strives to show how to move toward possible ways of resolving the

problem within the framework of the growing legal sphere of market economy relations.

The enormous difficulties being encountered by the rear service organizations planning the logistical support of the Armed Forces in recent years are well known. Until recently all the tasks of materiel was allocated by them centrally through state planning and supply organs. The mechanism created for supplying the Army and Navy was a colossal supply chain system covering thousands of enterprises and organizations throughout the country.

With the collapse of the USSR and the formation of sovereign states, and the chaotic transition of the domestic economy to a market economy, the economic ties between a single force began to quickly tear apart. Under conditions of economic crisis, the sharp restriction of budgets usually allocated for defense, and the dismantling of the central planning and supply organs, the Armed Forces were brought to the brink of destruction. Hard and yet laws dictated the rights of the enterprises, which the Army was not prepared to accept. In a situation of legal vacuum and weakening of state control, many enterprises unilaterally refused to make military shipments. The results of 1991-1992 showed it was unsound to attempt to organize uninterrupted and full supply of the Armed Forces based on former approaches. The Army and Navy failed to receive millions of tonnes of fuel, hundreds of thousands of tonnes of food, and many millions of rubles worth of clothing and other materiel.

During 1992 the country was undergoing the process of radical economic reform. However, as it was implemented, provisions for organization of logistical support for state-made institutions were by no means a priority. Only at the end of May, when many state consumers had their backs to the wall, so to speak, was the Russian Federation Law "On Shipments of Products and Goods to the Armed Forces" adopted, and established general legal and economic principles for the formation, placement and use of orders for the purchase and shipment of product for state needs including for the Armed Forces, on a contract basis.

The previously centralized system of distribution, which had been leaning more on inertia, received their final death sentence in the well-known Decree by the Government of August 27, 1992, No. 638 regarding contracts. Beginning in 1993 all forms of state supplies of material and technical resources, and their centralized distribution, would be abolished. The document requires that logistical and technical support of all enterprises and organizations be provided independently on the basis of contracts. Thus, with a wave of the hand toward thousands of enterprises and producers, and an enormous number of state consumers found themselves in the same waters of the market. As for the specific needs of the Army, it was thrown a life buoy in the form of the state order.

I should not forget that the hasty consignment to the archives of such fundamental economic categories as

"planning" and "centralization" was hardly fair. Experience of countries with a developed market economy shows that they have efficiently functioning regulatory mechanisms with which the state actively influences economic processes, and also effects a strict distribution of a specific portion of resources to satisfy its own needs.

A study of the specific features of logistical support of the armies of these states leads one to conclude that at the basis of most of them, planning and centralization are the fundamental principles on which the entire system of their support is built and functions. For instance, the improvement of logistical support of the Armed Forces of the U.S. is taking the path toward further strengthening of centralization and planning of materiel shipments. It is remarkable that this does not at all affect the capacity to effectively utilize the capabilities of the local economic base.

A most important factor in stable implementation of shipments of military orders in the U.S. is the presence of a strong federal contract system, in which state contracts and state orders have become a necessary element.

In the mid-80's, the U.S. government deliberately set out to strengthen centralized control of state orders. This topic deserves a separate conversation, but now we should stress that the U.S. Defense Department is building its economic activity completely on the contract basis and operates in the state market as a buyer of new equipment, raw and other materials, and services. It should be noted in particular that the functioning system of contract shipments has a sound legislative basis and extremely broad and flexible collection both of benefits and advantages, and of strict fines for enterprises which fulfil state orders.

In light of the above, the activity of the "Oboronkontrakt" company in 1992 may be viewed as just the first tentative but very important and necessary steps toward stabilization of logistical and technical support of the Armed Forces of the Russian Federation, and its transition to a new qualitative level.

Wherein lies the main difficulty today? First of all, in the lack of the needed legal basis and the corresponding mechanisms for realization of contract agreements. Required work experience is still lacking, there are few specialists with market-oriented state thinking, and essentially the very structures of the future contract system are still in the formative stage. We cannot help but consider that they are beginning their work against the background of a serious economic decline. Under these conditions, the directorates of the RF Defense Ministry performing the functions of state buyer often prefer direct contract ties with suppliers. This would seem to be a good thing: The shipments are direct, without middlemen. But the market is the market. Its conditions are constantly changing, the dynamics of prices in the different regions of Russia are hard to

predict, and price fluctuations in specific regions for a particular product may reach significant levels.

For instance, in mid-December 1992, the maximal and minimal cost of a group of foodstuffs needed for minimal survival differed by as much as a factor of 4.6 in different cities of Russia.

Only professionals, constantly involved in the analysis, can follow all the information and correctly forecast the situation so as to avoid economic loss. Do the rear service organs have the manpower and the resources under the new conditions, when they are already overloaded by other tasks, to efficiently track the situation at hundreds of supplying enterprises for thousands of items of materiel, and to quickly make decisions under dynamically changing market conditions? Dilettantism at the state level has always been very expensive, but in a market economy it becomes simply unacceptable.

Without a doubt, it would be much more advantageous to deal with a single experienced and reliable middleman, who would handle all the problems and guarantee fulfillment of all conditions of shipments with a minimal payment for his services. But for now military consumers are not very eager to use the services of middleman organizations. This is not surprising. Under the "wild" market conditions, we see many of them taking advantage of the moment to strive not so much for exemplary fulfillment of their shipment obligations as for unrestrained enrichment, by demanding inconceivable percentages for their services. That is why the state contract companies such as "Oboronkontrakt," by striving for mutually advantageous business cooperation on a strict legal basis, may become reliable partners for Army consumers.

In speaking today of the prospects for using the developing contract system in the interests of supplying troops (forces), one should not lose sight of one important factor—I mean the increasingly active introduction of the principles of territorial troop supply into the work of the rear service organs. The processes occurring in the country, of reorganization of economic relations and the formation of regional economic areas are objectively bringing to the fore the problem of wider and more effective use of the local economic base. I think that in this context, a strong contract organization may more effectively utilize the capabilities of the goods-producers and the wholesale commercial organizations of a specific economic region in the interests of supplying the troops on its territory.

I repeat, one can of course get along without middlemen, but in this case it is necessary to prepare for serious reinforcement of all the levels of the rear services with special structures which could work professionally and continuously to analyze the economic base of regions and the market conditions, and to sign contracts or shipment of materiel and the provision of services to the supported troops. The experience of foreign armies speaks convincingly of this. Thus for example, the U.S.

Armed Forces Fuel Supply Center has directorates for study and analysis of supply and demand, and for contracts and production staffed by more than 200 persons. Of course, maintaining such large elements is a costly pleasure, but believe me, everything was carefully calculated before they were created. Clearly we too, under the conditions of a market economy, we must more attentively allow for the real economic effect when conducting specific economic measures.

The development of a state system of logistical and technical support operating to satisfy state needs, including those of defense, on the basis of state contract purchases has just begun. There is no doubt that with time it will become an important factor for continuous and complete logistical support of the Armed Forces.

In accordance with the requirements of the order of the RF Defense Ministry of November 16, 1992, in the RF Armed Forces at present work is being done for the transition to a contract supply system. Despite the fact that it has been given a uniform organizational basis, each buyer and each service is striving to find its own system for reliable fulfillment of its needs under market conditions. This work is now gaining strength, and it is important to give it correct reference points for wide use, in the interest of uninterrupted supply of the Armed Forces, both of time-tested supply methods and of new ones, which have been created the market economy.

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Reorganization of North Caucasus Signal Communications System

94UM00584 Moscow VOYENNY VESTNIK
in Russian No 7, Jul 1993 (Signed to press
21 Jun 93) pp 2-5

[Interview with Major-General Nikolay Petrovich Lyaskalo, chief of Signal Troops of the North Caucasus Military District, by Colonel Yu. Churkin, VOYENNY VESTNIK correspondent, under the rubric "A Topical Interview": "Overcoming Difficulties"]

[Text] Today the Signal Troops deployed within the North Caucasus Military District, a border district, are assigned large missions involving a great deal of responsibility. One of the most important involves fundamentally modernizing the field and the fixed support communication networks. It can be said without exaggeration that effective control of troop and equipment in peacetime and in time of war is directly dependent upon the accomplishment of that mission.

Nor should we forget the fact that hot spots have unfortunately developed in this region. And efficient, reliable communication with areas of interethnic conflicts contributes significantly to their timely settlement.

How are the North Caucasus signalmen going to perform their assigned missions in such troubled times? This was the main subject of an interview conducted by Col Yu.

Churkin, our correspondent, with Maj-Gen N. Lyaskalo, chief of Signal Troops of the SKVO [North Caucasus Military District].

[Churkin] Comrade Major-General, we know that the North Caucasus signalmen were among the peace-keeping forces which settled the conflict in North Ossetia and Ingushetia. How did they perform their missions, and how well did they cope with them?

[Lyaskalo] Before talking about the work itself, I would like to say something about the difficulties which we encountered in preparing to perform this important assignment.

We know that the North Caucasus Military District was an interior district until recently. The signal troops were not up to full strength here, and there was a shortage of equipment. In general, the available personnel and assets were clearly inadequate to set up a communication system providing reliable control of the numerous facilities in the area of conflict. And so the communication sections and stations had to be brought up to strength on an urgent basis.

Frankly speaking, we were afraid that the newly formed crews might let us down at first in the performance of the assigned missions. After all, our units and subunits had to set up communication not just for the district command element but for the entire joint peacekeeping forces, as well. However, our concern proved to be groundless. All of the personnel operated fairly confidently. A lot of credit goes to the officers and warrant officers. Incidentally, these were selected with special care. We took only real professionals such as Majors A. Belshukhin and V. Serostanov and Captain S. Golovko. And they did not let us down. I could name many others. Difficult trials fell to the lot of WO [warrant officer] A. Chernov, for example. His radio-relay station was at one of the most important sites. There was shelling near it for several days. A real battle was in progress, but the crew did not flinch.

Things were particularly difficult during the first week, when the units and subunits which set up the field communication system were brought into the area of conflict. There were shortcomings, of course. But they were promptly revealed and rectified thanks to the selfless work of all the signalmen, whether officer or private.

Furthermore, it would be appropriate to stress the fact that they gave it their all not because of the benefits established for all those in the area of conflict. It was simply that the people understood the situation and, from a purely humane standpoint, wanted to bring the fratricidal incident to an end as rapidly as possible.

We subsequently set up alert duty in shifts both at the signal centers and on the communication lines. The officers and warrant officers were relieved each month; that is, they were allowed to rest and spend some time at home with their families.

[Churkin] Now let us talk about this. The district is now a border and not an interior district as in the past. The communication system, which is the backbone of command and control, will probably have to be fundamentally reorganized, first of all....

[Lyaskalo] Indeed. In peacetime the district's communication system utilizes mainly channels and lines of the Ministry of Communications, which the military department rents at great expense. For example, last year the district paid 130 million rubles. In other words, we do not have a full-fledged, fixed communication network in the district today. Consequently, the combat readiness of the forces depends to a considerable degree on the performance of civilian specialists servicing the rented channels.

We do have direct, inter-garrison radio and space communication and warning lines, but that is very, very little to fill the needs of troop command and control. The command element is concerned by the situation and is taking all possible steps to improve it.

It is already being planned to set up a territorial communication system within the North Caucasus Military District, a system which, incidentally, has been tested and has functioned well in certain regions. Among other things, it is planned to set up military communication lines, which will be operated for all of the command and control agencies, large strategic formations, formations and units of the Russian Federation's Armed Forces deployed in the North Caucasus region, and even other departments. Right now just about every one of them has its own, not very well developed communication system.

Many people now understand that so-called departmental parochialism results only in a squandering of personnel and facilities. On the other hand, if we succeed in uniting our efforts and setting up a single primary communication system, this will give us an adequate number of channels on the main informational axes. Consequently, it will be not only easier but far more advantageous for solving problems of command and control. The organization of interaction among its various agencies and installations will also be simplified.

[Churkin] Does this mean that in the not too distant future the military will be able to give up the services of the Ministry of Communication and, if necessary, even allocate channels for its needs?

[Lyaskalo] Exactly, because high-quality satellite, radio, tropospheric, radio-relay and line communication channels will operate within our territorial communication system. The possibility is not ruled out that there will also be fiber-optic channels.

[Churkin] And you are planning to handle such a difficult assignment using only your own capabilities?

[Lyaskalo] It can obviously not be done without help from the center, without a state program. I believe this is

precisely why our concept was given approval and support in the Ministry of Defense. And we have now begun building the territorial communication system.

With respect to funds for deploying the field support communications network, there are no special problems. The important thing is not to waste the resources, although at times we have to do that.

[Churkin] Nikolay Petrovich, you will agree that not much can be done without highly rated specialists, particularly in the performance of combat training missions in the field. Like the Russian Federation's Armed Forces as a whole, you obviously have personnel problems. What particularly disturbs you in this respect, and what steps are being taken to resolve the conflicts which arise?

[Lyaskalo] Indeed, the personnel problem has affected the district's signal troops too. Two things perhaps trouble us more than anything else. In the first place, we have an excess of officers who have served 15 or more years and are in excess of the manning table. There are no vacant positions for them. The situation is growing worse by the month by the arrival in the North Caucasus Military District of officers who declined to take the military oath in Ukraine, for example, and other adjacent foreign states. Officers are also being assigned to us from the groups of forces. The vast majority are fine specialists. Unfortunately, however, we cannot use them anywhere. So after spending several months without work, they are forced to leave the Army.

In the second place, there are not enough platoon-level officers, artillery and other battalion commanders. The shortage is no longer as acute as it was quite recently, to be sure.

We are also concerned by the fact that a growing percentage of graduates of higher military communication schools are attempting to get out of the Army under various pretexts after serving only a few months. We give our attention to these officers, of course. We perform goal-oriented indoctrinational work with them, frequently with success. Following confidential talks with those desiring discharge, most of them abandon the thought and remain in the ranks of the Armed Forces.

In all fairness, it needs to be said that some young officers even set out to discredit the military rank so as to leave the military for civilian life. These are mostly people with well-off parents. Many of them are also thrown off course by offers from commercial structures. Signalmen make fairly good engineers in the field of electronic systems, you know. Businessmen therefore try to win them away.

[Churkin] Comrade Major-General, we know that there is a problem with respect to the induction of youth for active military duty. This is apparently why women are being accepted into the Army. Tell me, please, what is the situation involving their recruitment for the District Signal Troops?

[Lyaskalo] I consider this to be an extremely promising route for solving the personnel problem, mainly to fill vacancies in positions for enlisted men. We are only beginning to do this, of course. Among other things, we have begun manning communication units and subunits with female warrant officers. They receive training at a special school, after which they become fairly good specialists.

Another thing: Women have long worked at our fixed communication centers as telephone and telegraph operators. They perform as well as, and frequently better than, the male specialists.

It should be pointed out, however, that women do not willingly take positions as specialists on crews and in communication sections, which have to perform combat training missions in the field. This process is underway and is picking up steam, though. It is bolstered by legislation which has been enacted. For our part we shall do everything possible to see that the signal troops of the North Caucasus Military District have an adequate number of female signalmen, masters of their jobs.

[Churkin] And how is the effort being made to recruit enlisted men to serve under contract?

[Lyaskalo] Until recently it was only talk. Since the enactment of corresponding laws, however, particularly laws on the status of military personnel, the situation has gradually been changing for the better. We are now authorized to man all of the communication units with contract personnel.

Absolutely specific figures are helping to convince signalmen to become professionals. Considering all of the benefits provided the private, for example, his annual income exceeds 600,000 rubles. The higher the position and the military rank, of course, the larger the amount. Frankly, workers may not be as well provided for financially at all state enterprises.

Enlisted men are not overly eager to sign contracts, particularly since there is no unemployment in our region right now. We therefore work with youth studying at institutes, tekhnikums and vocational and technical schools. We have established firm links with the military commissariats. And every day more and more individuals for whom the service is their main profession are joining the communication units of the North Caucasus Military District. So I believe that our difficulties can be overcome.

[Churkin] One last question: How is the training of signalmen proceeding in these difficult times for the North Caucasus Military District?

[Lyaskalo] The main specialists for communication units undergo initial training in a training battalion. It has fairly good facilities and experienced company and platoon commanders. Only one third of the cadet slots are filled, however, due to difficulties with the military

induction. The need for signalmen in the various specialties in the district forces considerably that. Only the contract manning system can get us out of the difficulty.

Despite everything, though, the main stress is still on improving the field training of the personnel and teaching them to operate in difficult situations and provide communication with limited personnel and facilities. These are difficult tasks, but the commanders are finding a way to accomplish them.

Take the unit commanded by Colonel N. Lozko, as an example. His subunits repeatedly went out on field exercises during this past training year. The personnel learned how to set up communication sections and stations on unfamiliar terrain, while meeting the combat training norms.

The soldiers also polish up their skills in various kinds of exercises, of course. The men under Lieutenant Colonels V. Nartov and A. Sazhin always perform with confidence in the exercises. Their success is primarily a result of carefully thought-out organization of the training and indoctrination process and constant focus on providing commanders and staffs with quality communication. In conclusion, I would like to underscore that it is impossible completely to accomplish all of the missions facing the district signal troops if the specialists are not professionally well trained. There can be no indulgences in this matter. It is true what they say: Those who want to do something find the means; those who do not, find excuses.

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Rear Services Chief on Financial Crisis, Preparations for Winter

94UM0066A Moscow KRASNAYA ZVEZDA in Russian
3 Nov 93 p 2

[Interview with Lieutenant-General Vladimir Timofeyevich Churanov, chief of the Rear Services of the Russian Federation Armed Forces, by correspondent Colonel Aleksandr Oliynik; place and date of interview not given: "The Rear Service's Problems Today and Survival of the Army and Navy Tomorrow"]

[Text]

[Oliynik] Vladimir Timofeyevich, one of the most difficult problems that is literally making the Armed Forces frantic is the financial one. Is it true that workers of the Rear Service perhaps feel this more keenly than all others?

[Churanov] Yes, the problem of financially supporting the material needs of the Russian Armed Forces has now assumed primary importance in the activity of Rear Services agencies. Uninterrupted, full support of the units and subunits with food, fuel, clothing and much other materiel depends on its solution. In analyzing the finance problem, I would like to turn attention first of all

to the increasing emphasis being laid on the social direction of the defense budget. The proportion of monetary appropriations to Rear Services with respect to the total volume of financial resources allocated to the maintenance of the armed forces has been growing steadily in recent years. For example, while in 1990 this proportion was only 4.8 percent, in 1991 it increased to 12 percent, and last year it was as much as 20 percent. This year this indicator will tentatively be around 25 percent.

It would seem that everything is all right. However, given today's difficult conditions of transition to a market economy, in which the economic and financial crisis in the country has grown more acute, rising inflation has significantly devalued these resources and their amount has turned out to be clearly inadequate. In short, the rate of growth of the prices of material resources has significantly outstripped the dynamics behind the growth of indexed volumes of financial resources allocated to the rear. The limits on financing the needs of the Army and Navy are now essentially the main reason for the extremely tense situation that has evolved in supporting the forces.

[Oliynik] What do you see as the way out of this situation?

[Churanov] First of all, complete and state-guaranteed financing of the material needs of the Army and Navy. Under the complex conditions of the transition to a market economy, such guarantees must be especially substantial, and supported by the corresponding normative acts at the highest level. This is why we associate improvement of materiel deliveries to the Armed Forces with developing and implementing a package of laws on state defense orders and on the federal contract system. Together with the Russian Federation law "On Defense" they must create the necessary legal foundation for a new system of material support to the Army and Navy, one which could operate successfully under the conditions of a market economy.

Troop experience shows that the system of territorial troop support that is presently being introduced has significant potential. It makes it possible to more effectively combine centralized deliveries with deliveries from local sources as a result of greater legal, financial and administrative independence of Rear Services at the lower levels.

Plans for improving the system for financing the Rear Services are also receiving their finishing touches. In my opinion their implementation will help to move money allocated to us faster through the system, and to improve troop rear support.

[Oliynik] Winter is just around the corner. How have the Rear Services prepared for it?

[Churanov] Preparation of the material base for laying away potatoes and vegetables was carried out according

to plan in the military districts and fleets. Their procurement on a major scale began in the first days of September, and it is already coming to an end. Fall field and harvesting operations are also ending at military agricultural enterprises. By the way, these enterprises supply up to half of the annual demand of soldiers of the Army and Navy in relation to several types of products. This allows us to significantly raise the stability of troop support, to significantly reduce the outlays on shipping foodstuffs, and to improve the quality of the diet of servicemen and their families. I would like to lay special emphasis on the delivery of freight to garrisons in the Far North and the Arctic. This was a very complex problem this year. It took a long time to sort out the matter of leasing tankers from the Latvian Marine Steamship Company. Unfortunately because of the absence of money, even the Russian steamship companies did everything they could to delay allocation of the needed vessels. Accumulation of the freight at ports proceeded with great difficulty. However, despite all of this, the plan for shipping goods to remote garrisons in regions with a limited season of access by water has now been completed 100 percent. Over 177,000 tonnes of materiel have already been dispatched to them.

[Oliynik] What is being done today to solve the problem of supplying fuel to the Russian Army?

[Churanov] Providing fuel to the forces is a lot of trouble for us. Of course, this problem cannot be considered apart from the extremely difficult situation of the country's fuel and energy complex in general. Let me recall that in the first half of the year, production of automotive gasoline, diesel fuel and fuel oil decreased by 13-16 percent.

Moreover, the rate of growth of fuel prices exceeded all predictions. As a result, the planned amount of monetary resources turned out to be insufficient to pay for the fuel, and besides that, the money arrived late.

We feel that market relations currently evolving require reexamination of the existing procedure of financing fuel payments, since the terms of state contracts signed with oil refineries for delivery of fuel to the armed forces foresee prepayment of shipped petroleum products and penalties for late transfer of money by as early as 1993. All of these problems are in their resolution stage, and their solution will doubtlessly help to stabilize the fuel supply situation of the forces.

[Oliynik] What is being done today to support the Black Sea Fleet?

[Churanov] Until recently, Ukrainian supplying enterprises were they main suppliers of food to ships, units and formations of the Black Sea Fleet. However, in view of current circumstances we are now forced to plan supply of food to the Black Sea Fleet from resources within the Russian Federation, utilizing the possibilities of Krasnodar Kray and centralized deliveries for this purpose. At the same time, we plan to procure some types of food such as dairy products, vegetables and bread for small garrisons from Ukrainian suppliers as before.

As you can see, Rear Services are being forced to restructure the forms and methods of their work quickly and on the move, so that units and formations of the Russian Armed Forces would always be supplied with everything they need for satisfactory combat training and daily activity, no matter where they are stationed.

INTERREGIONAL MILITARY ISSUES

Deterioration at Baykonur Nears Crisis

937Q0147A Moscow IZVESTIYA in Russian
7 Jul 93 p 5

[Article by IZVESTIYA correspondent Sergey Leskov: "Nightmare at a Space Launch Complex: The Myopia of Politicians Has Driven the Baykonur Space Launch Complex to Desolation and a Pre-Accident Condition"]

[Text] A city abandoned by people and full of wealth left behind is described in Kipling's "Jungle Book." This sad symbol comes to mind when one walks the streets of Leninsk, the administrative center of the Baykonur space launch complex, which quite recently was considered one of the most convenient and happy cities of the former USSR. In our wretched and meager life, Baykonur was an oasis which the country was proud of, and which was referred to as a "gateway to the 21st century." Tremendous funds and a lot of effort have been invested in this lifeless steppe...

They Survive Rather Than Live Here

During the last year 21,000 people have left Leninsk—more than one-quarter of the population! The ground floors of virtually all houses are vacant, their broken windows gape. Houses of culture and cinemas are closed. Some suspect, zombie-like characters roam the Arbat, the erstwhile beauty and pride of Leninsk. Infrequent pedestrians fearfully dash from one store to the next searching for food. During the week I spent in the city, bread was not delivered to the stores even once. The shrivelled sausage which, in view of a lack of refrigerators, sat in 40 degree heat, was covered with emerald flies. Vegetable stores in the southern part of Leninsk were closed. A glass of locally bottled Pepsi Cola cost 500 rubles [R].

After the USSR disintegrated, the Baykonur space launch complex was declared the property of Kazakhstan, which has virtually no enterprises of the relevant type or educational establishments for training specialists. At present, no more than 20 Kazakh officers hold technical positions at Baykonur. Of course, Kazakhstan's unpreparedness to operate a sophisticated technical facility independently by no means calls into doubt the legal rights of this state to the space launch complex built on its territory. However, the leadership of Kazakhstan understands that the space launch complex was built by another country. It is significant for all states of the CIS; interfering with space operations by them runs counter to the interests of Kazakhstan itself.

Chief of the State Administration of Leninsk Vitaliy Brynkin told me: "For the city authorities it is important at present to assist Russia in carrying out its space program." Incidentally, in all Kazakhstan heads of administration are appointed by President Nazarbayev's personal edict only in two cities—Almaty and Leninsk.

Russia and Kazakhstan have made several attempts to specify procedures for the operation of the space launch complex at the level of government-to-government agreements. However, as has become the custom here, arrangements for the implementation of well-meaning documents have not been perfected, and these documents exist only on paper. In an attempt to accomplish the current tasks of managing the space launch complex, Russia announced in August 1992 the creation of its own Military Space Forces, which it charged with managing Baykonur, without coordinating this with other CIS states. It is becoming increasingly clear that this was a hasty step from the point of view of long-term policy; it has brought about an aggravation of problems at Baykonur.

The point is that the Constitution of Kazakhstan forbids the placement of foreign, including Russian, military bases on the territory of the state. In an equally categorical manner, Russian laws allow only soldiers who volunteer to be sent abroad. The contract sum for privates there comes to R45,000; the Ministry of Defense budget does not have this kind of money. The last batch of draftees to missile units came to Baykonur from Russia in the spring of 1992. There already is a catastrophic shortage of soldiers at the space launch complex. Highly skilled specialists, officers are forced to perform the most primitive assignments. Career officers rather than soldiers guarded the Soyuz TM-17 rocket, which delivered the last Russian-French crew to orbit, virtually for the first time in the history of the space launch complex.

According to a government-to-government agreement, Russia accounts for 94 percent of the total volume of funding for the space launch complex, Kazakhstan—6 percent. However, it is impossible to monitor how the agreement is being carried out in the environment of hyperinflation and financial chaos. Still, the naked eye can see that construction of new facilities at Baykonur has stopped, and that existing facilities are being run down quickly. Russia maintains the viability of the space launch complex at a minimum, reluctant to finance the property of another state from its own coffers. Meanwhile, the climate in the steppes of the Aral is very difficult; temperatures range between minus 40 degrees Centigrade in winter and plus 50 degrees Centigrade in summer. Most utilities need to be replaced once every two years; all buildings and systems require heightened attention.

The ownerless and unattached status of the space launch complex affects the mentality of the personnel. Theft at launch pads and technical positions has become so commonplace that, as I understood from conversations with officers, it is already being viewed with indifference. Everything is stolen—even copper cables which are laid underground and metal sheets laid on the roofs of buildings. In all of that, it is forbidden to ship equipment which is out of order or broken-down machinery—the property of Kazakhstan—to Russia, that is, the territory of another state, for repair. As a result, even appliances

as simple as air conditioners, refrigerators, or TV sets are turning into great rarities at the space launch complex.

Soldiers' Mutinies Are Becoming Routine

The chaos that prevails at Baykonur cannot but affect the main task of the space launch complex—the safety of rocket launches. In June a heavy booster rocket Proton with the Gorizont communications satellite came down over the Pacific Ocean because they failed to pump enough fuel into the tanks. The launch complex of Proton, the most reliable Russian rocket, has become so desolate that it has been resolved to transfer it to another pad.

The roof of an assembly and testing hangar, in which the rocket was prepared for the Russian-French crew, has developed leaks so bad that had it rained, water from the sky would have streamed over the spaceship. One of the walls of the hangar is unsafe, the main concern of the personnel was to conceal it from the gaze of French journalists and tourists. One hour before launch, the launch position suddenly lost electricity. They succeeded in restoring power only through the emergency switching of circuits. Instead, after the evening launch, the entire city was enveloped in darkness.

However, the massive flight of high-class specialists from Baykonur is the most painful blow, and the hardest to sustain. As Lieutenant General Aleksey Samilin, chief of the space launch complex, told me, at present there are 2,500 vacant officer billets in the rocket and technical units (a total of about 8,000 specialists serve there). Most of those who have left took early discharge from the armed forces. One may only guess at how many officers "have their bags packed." However, absolutely all parents are striving to send their children to Russia by any means at all. Schools in Leninsk are half-empty, day-care centers have been closed down.

The life of those who remain faithful to the space launch complex is becoming increasingly difficult here. The inhabitants of the steppes of the Aral who do not have jobs in Leninsk at all squat in abandoned apartments. A bribe of R400 to the duty officer at the checkpoint is all it takes to penetrate the off-limits military city. A position at the checkpoint now costs more than that which a beer salesman used to in times past.

The rate of crime, drug addiction, and robbery is very high in this city which was quiet until quite recently. It is not safe for women to appear in the streets even during daylight hours. They go to the beach here only with huge dogs. Each building has several officer apartments which have been ransacked while the heads of families were on duty. The militia is virtually helpless and frequently indifferent. Over the last year the strength of the militia has fallen to 120, the authorized strength being 320 militiamen.

For the second year now, soldiers have mutinied at Baykonur. Mass disturbances spread in the construction troops, which are now subordinated to Kazakhstan. To

be sure, the last mutiny in June 1993 did not clarify itself. However, soldiers burned down three barracks buildings, three headquarters buildings, a school, a hospital, and a library with holdings of 12,000 volumes. Investigators went to neighboring units and tried to talk the soldiers into joining the mutiny. On the night of July 10 the city was terrified. Difficult conditions for service are the main reason for disturbances in the army of Kazakhstan: a colonel is currently paid less than a private soldier in the Russian army. The units of the once united array of the USSR which have been separated to their national quarters serve side by side, and it is impossible to conceal this inequality. Incidentally, Russia is proposing to restore its jurisdiction over construction units.

While the "High Parties" Are Coming to an Agreement

In early July, high-ranking delegations of delegations headed by Prime Minister of Kazakhstan Saryn Teyreshchenko and Deputy Prime Minister of Russia Oleg Soskovets visited the space launch complex. The residents, who are tired of the repetition of previous negotiations and agreements, expected something to be able to make at least some progress on the most fundamental issue—the status of Baykonur. It must be clear now that the space launch complex is considered a Russian military base. It will stay in Kazakhstan by services to the national economy provided through space operations. Kazakhstan must ensure the management of the space launch complex and the creation of special interstate organs and the possible expansion of the functions of the other organizations. In essence, the old conflict about the land, the owner of technology, and the right to use it has been elevated to the state level.

The results of the negotiations were disappointing for the residents. Despite high-ranking delegations, stating in interviews that they managed to make something during the winter season, all of them had been expected of them. The status problem of the space launch complex will not be resolved by any other agreements: the complex needs a long-term, stable, and good working environment for many years to come. I will make a heretical proposal. Before the signing of any embellished protocols, it is better to stop everything at all. When you have a breakdown in negotiations, it only delays the salutary cost of a deal.

Hopes that new economic life will be brought to the space launch complex are illusive. The attention of the Baykonur is geared toward other space activities. The only joint enterprise in Leninsk is the production of the old Yevgeniy Shulyayev, a specialist of the 1950s, who retired from the army. The enterprise is being heavily pressured by continuous requests and the general lack of understanding on the part of military commanders far removed from the reality of the space security city there is no end to the requests. It is an instant close down the military enterprise.

start profitable international tourism in Baykonur. Each of these insatiable echelons should be indulged with great care.

Viktor Savinykh, rector of the Moscow Institute of Geodetic and Cartographic Engineering, one of the most experienced Soviet cosmonauts, admitted to me that he takes a pessimistic view of the chances for a prompt agreement between politicians concerning Baykonur. Indeed, the problems of the space launch complex reflect the profound processes of disintegration in the former USSR. Besides, absurd as it is given the calamitous situation of Baykonur, the leadership of the space launch complex traditionally tries to embellish life for visiting bosses. Minister of Defense Pavel Grachev was obligingly taken to the latest launch in a bus with an air conditioner, perhaps without his knowledge, whereas the crew, virtually for the first time in the history of the launch complex, followed on a bumpy ride in a sweltering car.

Next, There Is Only Death

If the situation is not rectified in the immediate future, the space launch complex in which the people have invested tremendous efforts and resources will perish irretrievably. Unfortunately, it will then be impossible to realize the wealth of prospects which Russia and the entire CIS now have for gaining a firm position in the world market of commercial services. In 1993 negotiations are being conducted more and more actively concerning Russia's joining the programs of NASA and the European Space Agency. The potential of our space exploration is still great. However, it will not last forever; in the absence of sustenance it will quickly dry up, just like a creek in the midday heat of Kazakhstan. As V. Savinykh, a professor and a cosmonaut, believes, even now Western specialists who visit the perishing space launch complex would hardly agree to launch from there the large vehicles that are a part of their national space programs.

However, as far as Russia and the CIS are concerned, the technical wear of the space launch complex and the mental fatigue of the personnel increase the likelihood of an accident with each new launch. Of course, it would be very nice for the sad predictions to fail to come true.

...Following the launch of the Soyuz TM-17 rocket, one of the Ostankino operators looked absolutely flabbergasted. A few minutes before the launch he saw, through the lens of his TV camera trained on the smoking rocket from a shelter, a group of half-naked boys who had serenely positioned themselves about 200 meters away from the launch pad. How did they infiltrate the carefully guarded danger zone? This was a mystery! However, something else is clear: The chaos that reigns at Baykonur is beginning to threaten the safety of the people.

BELARUS

First Year of Conventional Force Reductions

94UM0063A Moscow KRASNAYA ZVEZDA in Russian
28 Oct 93 p 3

[Article by KRASNAYA ZVEZDA correspondent Valeriy Kovalev: "Will We Forge Swords Into Plowshares? This Is Costing Belarus Very Dearly"]

[Text] A year ago the republic began fulfilling its commitments for reducing conventional weapons.

The first phase ends on 16 November as specified in the treaty. During that period, I was told at the National Agency for Monitoring and Inspections of the MO RB [Ministry of Defense of the Republic of Belarus], 500 tanks, more than 400 BMP [infantry combat vehicles] and BTR [armored personnel carriers], and 20 or so aircraft have been "processed" at the Borisov Tank Repair Plant and at the special Stankovo and Lesnaya bases. The vast majority were turned into ordinary scrap metal. A small part of them were converted for use in the civilian economy.

The burden of disarmament proved to be far heavier for Belarus than anticipated at the beginning, however. Expectations that most of the cost of destroying the combat equipment could be recouped by obtaining quality metal from the armor proved to be excessively and unjustifiably optimistic. It turned out that the Belarussian metallurgists, who have neither adequate capacities nor the special equipment involved nor experience in smelting such quantities of armor, had bitten off more than they could chew.

Expenses involved in the "dismemberment" and conversion of the tanks and armored vehicles are growing not by the day but by the hour, so to speak. More than a billion rubles has already been spent out of the republic budget to "forge swords into plowshares." And these costs will continue to rise along with the rampant inflation.

In better times the republic would undoubtedly have come up with the money. Today, however, when it finds itself in the grip of an extremely severe economic and financial crisis, deeply in debt to the suppliers of gas and oil, and forced to spend many billions of rubles on mopping-up operations following the Chernobyl disaster. The cost of disarmament is becoming too much for it. It was no surprise when Stanislav Shushkevich, Belarussian head of state, insistently appealed to participants at a recent session of the Council of Europe to help the republic with the destruction of the excess weapons.

"That is only fair," says Major-General Viktor Bakar, chief of the National Agency for Monitoring and Inspections of the Republic of Belarus' Ministry of Defense. "Under the agreement, little Belarus has to eliminate 1.6 times as much combat equipment as the USA. Great

Britain and France combined. Was it Belarus which initiated the arms race? The NATO countries and former members of the Warsaw Pact are equally responsible for the accumulation of mountains of weapons on our planet. And if everyone in Europe is now equally interested in security, if the destruction of the excessive military arsenals is advantageous to every state, then all the participants in the CSCE should do their part."

CAUCASIAN STATES

Gamsakhurdia Forces Retreat to Zugdidi

94U M00494 Moscow KRASNAYA ZVEZDA in Russian
27 Oct 93 p 3

[Article by Vitaliy Alekseyev and Kirill Petrov: "Zviadists Retreating to Zugdidi and Senaki. Keep Abkhazia in Mind"]

[Text] Armed detachments of Zviad Gamsakhurdia on 25 October abandoned Poti without a fight and are retreating to Zugdidi and Senaki, with the intention of setting up dense lines of defense there. They are concentrating at the settlement of Tsashvi, while the government forces are taking up positions along the Abasha River. An appeal extended by Eduard Shevardnadze to Colonel Loti Kobaliya to switch his allegiance to the side of the government troops went unanswered. According to information in the possession of KRASNAYA ZVEZDA, the Zviadists, in the event of unfavorable development of the situation in Western Georgia, will move into Abkhazia to prepare for a "new campaign of liberation." Meanwhile, a border troops detachment is being organized in Abkhazia, to be headquartered in Sukhumi. Included in the mission of the border troops detachment, commanded by Major Igor Mikanba, is guarding the border along the Inguri and Psou Rivers. Two check points and three border posts are to be set up on the Georgian border.

Tbilisi is also troubled by the development of events in South Ossetia. During its most recent session, the Supreme Soviet of this autonomous unit passed a resolution calling for reunification with North Ossetia, becoming part of Russia, and "establishing friendly relations" with the North Caucasus and Abkhazian Republics.

Georgian Plane Strikes Russian Border Post

94U M0063B Moscow KRASNAYA ZVEZDA
in Russian 28 Oct 93 p 3

[Report by Vitaliy Alekseyev and Kirill Petrov under the rubric "Events and Commentary": "Russian Border Troops Wounded in Georgia"]

[Text] Eduard Shevardnadze stated that the Georgian pilot struck the post in error.

At 17:00 on 26 October a battle broke out between government forces and formations of former president

Zviad Gamsakhurdia in the area of the 8th border post of the North Caucasus Border District's Sukhumi Border Detachment at the village of Anaklia (30 kilometers from Poti). The border troops armed themselves and took up an all-round defense. In the course of the battle two Su-25 aircraft of the Georgian VVS [Air Forces] carried out strikes against the Zviadists' positions. Several missiles exploded in the immediate area of the border troops. Major Vladimir Chernenkov, chief of the post, and two soldiers were wounded.

Eduard Shevardnadze expressed regrets over the incident and stated that the "strike was made by mistake." We remind the reader of how, a few weeks ago, a Georgian Su-25 bombed Zviadists in the area of Poti, and a Russian border post was caught up in the action.

At 17:00 on 26 October government forces took the city of Senaki. There can be no doubt that they will continue the offensive against Zugdidi, the Zviadists' stronghold. The Zviadists are preparing to defend. They are building fortifications and are erecting barricades in the city. The experts say that it will be difficult to take Zugdidi. The strategic heights overlooking the only road leading to the city from Khobi are controlled by the Zviadists.

Russian Forces Caught in Zviadist Offensive

94U M0067A Moscow KRASNAYA ZVEZDA in Russian
2 Nov 93 p 3

[Report by Vitaliy Alekseyev and Kirill Petrov: "Gamsakhurdia Preparing General Engagement"]

[Text] Gamsakhurdia is preparing for a general engagement, and armored groups of Russian forces guarding strategic main lines could find themselves at the epicenter.

Subunits of the Group of Russian Troops in the Transcaucasus which have taken on the security of bridges and tunnels on the entire railroad section from Poti to Tbilisi, are being subjected to attacks by armed detachments of Zviadists. During the morning of 30 October the Russian military post at Senaki was also shelled with artillery guns, mortars and small arms. After the fire was returned, the attackers withdrew and took up a defense 1 kilometer south of Abasha. A Russian military post at the village of Marani was shelled that same morning. Here too, after the fire was returned, the attackers withdrew across the river and took up a defense 3 kilometers south of Samtredia. If one is to believe Tbilisi, this area is completely under the control of government troops. This makes it all the more difficult to understand how a Zviadist detachment could have penetrated to the bridge at the village of Marani. This question, raised by KRASNAYA ZVEZDA at the press center of Georgia's Ministry of Defense, went unanswered.

It is apparent that Russian forces are guarding the railway to the accompaniment of combat operations in western Georgia. And they are fulfilling their obligations honorably. This fact, incidentally, was pointed out by

Eduard Shevardnadze at personnel meetings in the armored groups of the GRVZ [Group of Russian Forces in the Transcaucasus] on 30 and 31 October. He expressed satisfaction that the Russian forces are guarding strategic railroad lines and coordinating their operations with Georgian government troops under the agreements reached. Such is the point of view of the head of the Georgian government. But what do they think at GRVZ headquarters? KRASNAYA ZVEZDA asked Maj. Gen. Boris Dyukov, deputy GRVZ commander, to comment on the situation which has developed in western Georgia. This is what he replied: "I have only one comment. The Georgian forces withdrew, leaving the bridges unprotected, which is a violation of the agreements reached. For now we are continuing to guard the railway..."

We remind you that armored groups of the GRVZ are protecting the bridges at Poti (88 men, four BMPs and two tanks), at Senaki, across the Tekhura river (11 men, two BMPs and one tank), and at the village of Marani (18 men, two BMPs and one tank). The situation at Senaki was the most difficult, and when Zviadists captured the city, the Russians had to fall back. Fortunately, no one was killed or wounded in the armored groups. Government forces took Senaki on 31 October, the birthday of Gen. Georgiy Karkarashvili, minister of defense. The Zviadists are in control of the city of Khobi. According to KRASNAYA ZVEZDA's information, Zviad Gamsakhurdia is at Zugdidi. Six buses of North Caucasus volunteers arrived there from Abkhazia over the weekend. From all indications, Gamsakhurdia is preparing for a general engagement. Col. Loti Kobalia, his right-hand man, and his staff are working out plans for the next "liberation campaign."

Progress of Georgian Offensive

94UM00824 Moscow. KRASNAYA ZVEZDA in Russian
9 Nov 93 p 3

[Article by KRASNAYA ZVEZDA Correspondent Vitaliy Denisov, Tbilisi, under the rubric: "Events and Commentary": "Having Taken Zugdidi, Government Troops Are Taking Aim at Abkhazia: The Situation Around Russian Army Posts Is Calm"]

[Text] Despite the assurances of the head of the Georgian State that government troops would not enter Zugdidi, the city fell after brief resistance on the evening of 5 November. Inspired by the success, joint detachments of the Ministry of Defense, MVD and "Mkhedrioni" continued the offensive in several directions. Indeed, only 11th Brigade experienced success, having occupied the important, in an operational sense, populated area of Muguri that is located 25 kilometers northwest of Zugdidi.

After the fall of Zugdidi, ex-President of Georgia Zviad Gamsakhurdia allegedly rushed to a border village of Abkhazia's Galskiy Rayon and, according to certain information, is ready to once again take refuge with a portion of his supporters in Chechnya where, in his words, he will provide a life of paradise for them on 100 hectares of land that has been allotted to him. As anticipated, the remaining fighters of the Loti Kobalia detachments have unleashed active partisan operations from bases prepared in forests and mountain ranges.

The unsuccessful attempt to assassinate Georgian Republic Minister of Defense Major-General Giya Karkarashvili attests to the fact that partisan warfare has begun. His vehicle was blown up by a remote-controlled mine on after an operational meeting that occurred in the city of Abash on 6 November. Through pure luck, the minister himself and the individuals who were accompanying him escaped with only minor injuries.

According to predictions, despite the uncoordinated enemy groups that have remained in the rear areas, government troops can unleash combat operations in Abkhazia in the near future on the wave of successes. The mood in the capital of Georgia also attests to that. New Vice Premier Tamaz Nadareishvili considers his main task to be the return of Abkhazia to the bosom of the mother country.

The GRVZ [Group of Russian Forces in the Transcaucasus] Command Authorities are refraining from assessments of what is occurring. Group of Forces subunits continue to accomplish the missions of guarding the main rail lines on the Poti-Kutaisi section. The situation around the posts is calm.

ARMS TRADE

Weapons Theft in Pacific Fleet Units

PM1011143393 Moscow KRASNAYA ZVEZDA
in Russian 10 Nov 93 p 5

[Report by Lieutenant Andrey Gavrilenko: "Stolen in Vladivostok. Found in Japan. According Kray Internal Affairs Administration Chief A. Nezhelskiy, Vladivostok Is Russian Center of Illegal Arms Traffic"]

[Text] Vladivostok—At least six criminal groups specializing in buying and selling arms are operating in the Maritime region, claims Viktor Gavrilov, chief of the Vladivostok Criminal Investigations Department. And military units of the Pacific Fleet have unfortunately become one of the main sources which they use to obtain their lethal "goods."

Captain First Rank Gennadiy Antonov, the Pacific Fleet's chief missile-artillery specialist, has been forced to admit that Russia's largest fleet also ranks first when it comes to the theft of weapons. Such incidents are recorded almost every day; but a little more than one-half of stolen goods are returned to the units. The rest vanishes without trace or... "surfaces" in places beyond the reach of Russia's law enforcement organs; for example—in Japan. Within the last few months alone, Japanese customs officers have uncovered cases of the illegal importation into their country of arms and munitions on six Russian vessels. Thus seamen Mazanov and Desom from the seiner Golitsyn were detained in the Japanese port of Otaru. Customs seized from them two pistols and 27 pistol cartridges.

Seaman Boymadurov from the steamer Titovsk was arrested in the port city of Tomakomai attempting to acquire a second-hand Toyota in exchange for a pistol and cartridges. And recently in Osaka a group of Russian seamen were found guilty of illegally importing seven pistols into the Land of the Rising Sun.

... The paucity of security systems and installations and the catastrophic shortage of personnel in the units leads to more and more arms thefts. Meanwhile, the Fleet has for a long time been developing electric field and television monitoring systems, security devices reacting to body heat, and even... mine field systems designed to prevent people trying to acquire weapons illegally. But, alas, things never get beyond good intentions and a few calculations on paper.

DEFENSE INDUSTRY

Davydov on Prospects for Cooperation With U.S. in Defense Conversion

94WC0011A Moscow ROSSIYA in Russian No 46
10-16 Nov 93 (Signed to press 9 Nov 93) p 5

[Article by Professor Yuriy Davydov "A Pump Working in the Other Direction"]

[Text] It's no secret to anyone that the Russian military-industrial complex is living through its worst crisis. The official diagnosis reveals objective difficulties in the conversion process and in transition to a market economy. An integral concept of conversion is lacking, as a result of which an elephant often gives birth to a mouse: An enterprise that used to produce uranium now makes toothpaste tubes or juicers, senselessly squandering its industrial and professional potential. And there is something else that is having its effect: The former military-industrial complex was in its very essence an absolutely anti-market organization.

First of all, there was never any need to reckon with the costs of scientific research, experimental design work and production: It received from the country whatever assets and resources it wished. In a number of ways it attained accomplishments at the world level or even higher, but the society has no idea of the price by which they were attained.

Second, competition had little relevance to the military-industrial complex, and the concept of marketing was totally alien to it: It worked on state orders, and in the international arena it serviced the Soviet Union's ideological clients, who paid not with money but with political loyalty. Now that it has attempted to enter the world arms market on its own, its share of world arms trade has immediately dropped from 38 to 18 percent. Of course, a romantic vision of the outside world by the new Russian leadership, which apparently believed that Russia's democratization would make it exempt from competition, also played its role.

The psychology of dependence traditionally inherent to the military-industrial complex is also suffocating the current Russian approach to conversion. It had always held a privileged position in the Soviet economy, and its lobby was the most influential within it. The situation both in defense production and in the armament structure of the Army itself, and not the suitability of reasonable sufficiency, predetermined the specific needs of the military-industrial complex. This is probably the only explanation for the fact that a poor country, and one with centralized planning at that, was able to allow itself the luxury of possessing eight different types of land-based strategic missiles with nuclear warheads (for comparison, the United States had only three types), and five types of ballistic missiles for submarines (the USA had two modifications). The wall of secrecy fencing off military industry from its civilian counterpart blocked the transfer of accomplishments in scientific research, experimental design work and production processes from the military-industrial complex to nonmilitary spheres of production. (Western firms usually combine both kinds of production). For practical purposes, the military-industrial complex was not only a state within a state, but also a powerful pump sucking the best personnel, resources and equipment out of the economy, while giving it nothing in return.

And although Russia is living today in a different dimension, the nostalgia of a number of generals of the military-industrial complex for the good old days is having its impact. The attempted reprisals against two chemical scientists—V. Mirzoyanov and L. Fedorov, who announced that rather than carrying out conversion they were being required to continue work on chemical weapons—reveal the possibilities of Russia's defense establishment. It would probably be unfair to lump all representatives of the present military-industrial complex into this category—there are many among them who are striving for real conversion, for the output of science-intensive products, and not aluminum frying pans. They are justified in their desire to not go from one extreme to the other, to use production to create a sound financial base for conversion.

But another trend exists as well. Striving to preserve their function, their corporate nature and their privileged position in the country's economy, some circles in the military-industrial complex are attempting to achieve mutual understanding, to organize interaction with analogous military-industrial complexes abroad. The most powerful of them is in the United States, which is also experiencing difficulties and a drop in prestige brought about by the sudden disappearance of bipolar confrontation. Consequently, it is natural that in its search for a partner the Russian military-industrial complex would want to achieve mutual understanding primarily with the American one (though this does not exclude the others).

Such cooperation has already progressed beyond good intentions. For example American scientists working in the Livermore Laboratory on a roentgen laser under the SDI program encountered fundamental difficulties that they were unable to resolve on their own. According to their information, Russian researchers working on a similar problem were around 15 years ahead of the them. And so President G. Bush personally asked B. Yeltsin to allow American experts to visit the Russian center, which had enjoyed success in this direction. And consent was given. Moreover Russia sent a group of scientists to Livermore to help the Americans solve many problems. Here's another example: For just \$12 million the United States purchased one of the most outstanding accomplishments of the Russian military-industrial complex—the Topaz-2 nuclear reactor, which the Americans plan to use in that same Star Wars program. Russian engineers traveled to the USA to participate in the work to put the reactor on line. In the opinion of American experts, the reactor's acquisition saved several years of work and billions of dollars. In the meantime, they paid the Russian engineers who set it up for them on the basis of Soviet standards—\$20-\$30 per month, which is 200 times less than what their American colleagues get.

Something else is typical as well: When Russia raised the question of creating a joint antimissile defense system, Washington's response was cold. During preparations for the Vancouver summit a certain member of the Russian ruling elite suggested to Yeltsin that he

discuss with Clinton the question of joint work on plasma weapons to be used against ballistic missiles—a doubtful idea in the opinion of a number of authorities. Luckily, the discussion never took place, but the military-industrial complex continues to search for foreign niches.

Of course, not everything is positive about the desire to establish international cooperation among national military-industrial complexes. It is one thing when the discussion turns to equipping the Russian IL-96M passenger aircraft with more powerful and economical engines from America's Pratt and Whitney. But military space programs are something else: To what extent can they promote conversion of Russia's military industry, how much can they do to lift up a country that is unable to feed its own people? Many questions still remain open.

Principal among them are apparently the following, if we disregard the moral and ethical side of the matter (mutual understanding between national military-industrial complexes always provokes anxiety): Is this cooperation developing in the interests of conversion of military industry, or its preservation? This question is relevant by the way not just to the Russian military-industrial complex, but also to foreign ones. The transfer of purely military technology is proceeding today in a single direction—to the USA (from which only the technology of destroying weapons is flowing). Doesn't this create a situation where Russia's military-industrial complex is more interested in pumping its know-how not into its civilian industry but chiefly into Western military-industrial complexes? Are dollars presently more attractive than rubles?

The West, which fears a "brain drain" from the Russian military-industrial complex into countries unfriendly to it, would apparently not be above diverting this flow to itself. But what Russia fears is the "brain drain" occurring out of its conversion program, and in this latter case it may be even more intensive than in the former.

The Russian military-industrial complex does not have any experience in commercial transactions and business cooperation, and its knowledge of the market is poor; nonetheless it wants to penetrate into it at any price. But any price means the lowest price. We are forced to consider that some deals between the Russian military-industrial complex and the USA are already evoking alarm among local businesses that are losing their share of profitable orders. The motives sound familiar: Russia is costing Americans their jobs. Finally, the equality and promise of this cooperation remain unclear. It may be that such apprehensions are exaggerated today. The scale of present cooperation of the Russian military-industrial complex with analogous structures abroad is still too modest to affect conversion negatively. But it is important to know where a road leads before you set off on it.

Omsk Defense Plants' Problems, Plans

PM1011125593 Moscow KRASNAYA ZVEZDA
in Russian 9 Nov 93 p 3

[Valentin Rudenko report under the "Defense Complex" rubric: "Toward a Strong Russia Through Strong Industry"]

[Text] As far back as two centuries ago, Mikhail Vasilyevich Lomonosov wrote: "Siberia will add to Russia's might." This prophecy has come true. Siberia is today a concentration of major industrial enterprises which embody our state's strength and might. They include Omsk's "Polet" and "Transportation Machine Building Plant" Production Associations which, as we have already reported, were visited at the end of last week by a group of generals and officers led by Andrey Kokoshin, Russian Federation first deputy minister of defense.

In recent times, defense complex enterprises have had the misfortune to go through so many trials and tribulations that one may regard even an insignificant stabilization, not to mention any improvement, as a breath of fresh air. Judging by "Polet," one of Russia's most important aerospace associations, people are perhaps breathing more easily in Siberia today or, to be more accurate, are breathing fresher air than in the other regions. In spite of the deep economic crisis, this association has managed not only to maintain its traditional lines but also to develop a series of new ones, and to become a genuinely diversified company.

"If we succeed in getting the number of these companies to reach several dozens, then in the near future we will occupy a really deserved place among the world's developed countries in the area of producing competitive, research-intensive output," Andrey Kokoshin said.

The "Polet" Aerospace Association began life as an aircraft construction company in 1941. It was here that the Tu-2 and Il-28 bombers, the Yak-7 and Yak-9 fighters, and the Tu-104, the first domestically produced jet liner, were created. At the end of the 1950's, the association changed its area of specialization to the production of space rocket technology, including for military purposes. When conversion knocked on the door, once it had weighed up all the "pros" and "cons," "Polet" decided to return to airplane construction. Today, series production of the An-74 passenger transport plane is being developed here.

Work to modernize the An-2 is being organized in parallel with this. It is planned to install a much more economic engine and new equipment in this aircraft. The association's order book already has orders for the first 40 machines.

"In order to regain the capacity to produce aviation equipment, it has been necessary to take a number of unusual measures," the association's General Director Valentin Zaytsev said. "We have invited specialists from

other companies. We have provided them with apartments. All this, in our experience, repays itself a hundredfold at present."

It has to be said that an innovative approach to literally everything is characteristic of all the "Polet" Production Association's leaders.

The company's success goes hand in hand with a well thought-out regional program to promote conversion. The oblast and city leaders perceive the defense enterprises not as dependents but as an embodiment of the country's industrial might and elements of its national culture, and are giving them all the help they can.

"Here in Siberia, it is not our custom to complain and look to others for sympathy, make hasty decisions, doff our caps to the center, saying that things are bad in the country as a whole, so things are also bad here," Omsk Oblast Administration Head Leonid Polezhayev said. "Some people are responsible for the country, some for the oblast, and some for a specific enterprise. Everyone should conscientiously get on with his own business, then everything in the country will be fine."

People at "Polet" have taken that truth to heart long ago. They have not gotten used to going about with a begging bowl here.

"We produce what the country really needs: Aircraft, missiles, satellites; and, apart from this, separators and a wide range of military hardware, which is why we look optimistically toward the future," General Director Valentin Zaytsev told us. "There would be even more optimism if financial and economic stabilization finally occurred, and the customers' buying power was restored. Inflation and enormous taxes are swallowing up almost everything we earn and are not allowing us to develop and to create working capital."

Financial and economic problems were also discussed at the meeting between Andrey Kokoshin, Russian Federation first deputy minister of defense, and leaders of the Omsk "Transportation Machine Building Plant" Production Association. This plant builds the T-80U tank. It was these tanks which were dubbed "flying" tanks at the recent arms fair in Abu Dhabi for their high degree of mobility.

Producing a tank, though it is a less complex vehicle than, say, a satellite or an airplane, still requires exceptionally highly skilled workers and engineers. Unfortunately, the number of such specialists is steadily diminishing with each passing month. There is one reason for this—low wages.

"We did not turn out anything apart from tanks before," the association's Chief Engineer Vladimir Ageyev said. "Therefore, the cutting of the defense order put us in a very difficult position."

Everyone is aware that it is difficult to switch from producing tanks to other output. But to the credit of the Omsk tank producers, they have really succeeded in

organizing the production of tractors for private farmers. So far, only 10 vehicles have been produced, but it is planned to reach a level of up to 100 tractors per month. There are also other plans.

Much depends on the enterprises themselves. But not everything, of course. It will only be with the requisite support from the government that they will be able to transform themselves into diversified companies, into those very "locomotives" which haul the whole of industry behind them, and Russia along with it.

FOREIGN MILITARY AFFAIRS

Use of Decoys Against Iraqi Air Defenses

94UM0074A Moscow VESTNIK
PROTIVOVOZDUSHNOY OBORONY in Russian
No 7, 1993 p 58

[Article by Colonel Andrey Smirnov under the rubric "In Foreign Armies": "Dummy Targets Against... Husayn"]

[Text] Pilots of the U.S. Navy and Marine Corps made extensive use of decoy (LTs [lozhnaya tsel]) gliders to mislead Iraqi air defenses, reveal deployments of units and subunits, and divert anti-aircraft guided missiles away from attacking aircraft. A raid against an airfield south of Baghdad in that city's air defense zone was a typical example of the use of decoys (TALD) in the early stage of combat operations in the Persian Gulf. Several A-6 medium bombers operated just as carriers. Each aircraft carried eight decoys, which reliably covered a large zone in an area of concentration of air defense assets. This enabled the American pilots to carry out the combat mission successfully.

What are the capabilities of decoys? They have a flight range of 48-113 kilometers, depending upon the altitude at which they are released and their air speed. They conceal the real air strike force, saturating zones of radar coverage with a quantity of targets which exceeds the capabilities of the radar stations. They simulate active and passive radar features typical of aircraft.

HARM anti-radar missiles carried by multipurpose F/A-18 aircraft were launched immediately after the decoys were released. These missiles were intended to destroy tracking radar locked onto the approaching decoys. For example, more than 200 HARM anti-radar missiles were launched in the air strike against Baghdad on the first day of the war. It was calculated that the probability of target destruction by anti-radar missiles

would be increased 2-to 3-fold by using them together with decoys, which would keep the enemy's radar in the operating mode.

Another tactical procedure consisted in sending the aircraft carrying the decoys away from the main strike force and releasing the decoys on one side of the target, while the bombers would approach from another direction. After launching the HARM missiles carried on board, the F/A-18 aircraft would switch to operating as escort fighters to cover the withdrawal of the bombers to their bases.

The Persian Gulf War demonstrated that it was more expedient to use F/A-18 aircraft as decoy carriers, even though they carry 2-4 decoys fewer than the A-6. This is due to the fact that the F/A-18s can release the decoys at higher altitudes and greater speeds. This makes the multipurpose aircraft less vulnerable to the enemy's guided missiles and fighters.

In the later stages of combat operations, after the Iraqi air defense system had been destroyed, it was found expedient to use aerial bombs. In addition, HARM anti-radar missiles were already being installed on the EA-6 electronic warfare aircraft. These aircraft were then used in support of assault operations.

Pilots of F/A-18 aircraft of the U.S. Marine Corps also used TALD decoys. The use of decoys was included in plans for every flight to suppress air defenses in both Iraq and Kuwait (SA-2 SAM systems were deployed around the Kuwaiti International Airport, and SA-6 SAM were active in the north of the country, where formations of Iraqi Republic Guards were concentrated). Each aircraft would usually have extra fuel tanks mounted on two armament suspensions and four TALD decoys.

High-level representatives of U.S. military planning services note that the decoys are effective only when they take the enemy by surprise. A well-trained operator of an air defense radar system drilled in combat conditions can distinguish a decoy from a real aircraft by differences in the characteristic radar indications, in speed, flight path and the thrust modulation of the jet engine.

The Brunswick company, manufacturer of the TALD decoys, is offering an improved model with an engine. This increases the flight range and speed, and provides maneuverability for more exact reproduction of the characteristics of a real plane. Neither the U.S. Navy nor Marine Corps has acquired this expensive program at the present time, however.

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